

At page 2, delete lines 26 through 29 and insert--

Figures 1A and 1B contain the amino acid sequence of *H. pylori* polypeptide HPP1 (1A) (SEQ ID NO:384) and the nucleic acid sequence HPP1B (1B) (SEQ ID NO:1) which encodes HPP1;

Figure 2A contains the amino acid sequence of *H. pylori* polypeptide HPP2 (2A) (SEQ ID NO:385);

Figure 3A contains the amino acid sequence of *H. pylori* polypeptide HPP3 (3A);

Figure 4A contains the amino acid sequence of *H. pylori* polypeptide HPP4 (4A);

Figures 5A and 2B contain the amino acid sequence of *H. pylori* polypeptide HPP5 (5A) (SEQ ID NO:386) and the nucleic acid sequence HPP5B (2B) (SEQ ID NO:2) which encodes HPP5;

Figures 6A and 3B contain the amino acid sequence of *H. pylori* polypeptide HPP6 (6A) (SEQ ID NO:387) and the nucleic acid sequence HPP6B (3B) (SEQ ID NO:3) which encodes HPP6;

Figures 7A and 4B contain the amino acid sequence of *H. pylori* polypeptide HPP7 (7A) (SEQ ID NO:388) and the nucleic acid sequence HPP7B (4B) (SEQ ID NO:4) which encodes HPP7;

Figures 8A and 5B contain the amino acid sequence of *H. pylori* polypeptide HPP8 (8A) (SEQ ID NO:389) and the nucleic acid sequence HPP8B (5B) (SEQ ID NO:5) which encodes HPP8;

Figure 9A contains the amino acid sequence of *H. pylori* polypeptide HPP9 (9A) (SEQ ID NO:390);

Figures 10A and 6B contain the amino acid sequence of *H. pylori* polypeptide HPP10 (10A) (SEQ ID NO:391) and the nucleic acid sequence HPP10B (6B) (SEQ ID NO:6) which encodes HPP10;

Figures 11A and 7B contain the amino acid sequence of *H. pylori* polypeptide HPP11 (11A) (SEQ ID NO:392) and the nucleic acid sequence HPP11B (7B) (SEQ ID NO:7) which encodes HPP1;

Figures 12A and 8B contain the amino acid sequence of *H. pylori* polypeptide HPP12 (12A) (SEQ ID NO:393) and the nucleic acid sequence HPP12B (8B) (SEQ ID NO:8) which encodes HPP12;

Figures 13A and 9B contain the amino acid sequence of *H. pylori* polypeptide HPP13 (13A) (SEQ ID NO:394) and the nucleic acid sequence HPP13B (9B) (SEQ ID NO:9) which encodes HPP13;

Figures 14A and 10B contain the amino acid sequence of *H. pylori* polypeptide HPP14 (14A) (SEQ ID NO:395) and the nucleic acid sequence HPP14B (10B) (SEQ ID NO:10) which encodes HPP14;

Figures 15A and 11B contain the amino acid sequence of *H. pylori* polypeptide HPP15 (15A) (SEQ ID NO:396) and the nucleic acid sequence HPP15B (11B) (SEQ ID NO:11) which encodes HPP15;

Figures 16A and 12B contain the amino acid sequence of *H. pylori* polypeptide HPP16 (16A) (SEQ ID NO:397) and the nucleic acid sequence HPP16B (12B) (SEQ ID NO:12) which encodes HPP16;

Figures 17A and 13B contain the amino acid sequence of *H. pylori* polypeptide HPP17 (17A) (SEQ ID NO:398) and the nucleic acid sequence HPP17B (13B) (SEQ ID NO:13) which encodes HPP17;

Figures 18A and 14B contain the amino acid sequence of *H. pylori* polypeptide HPP18 (18A) (SEQ ID NO:399) and the nucleic acid sequence HPP18B (14B) (SEQ ID NO:14) which encodes HPP18;

Figures 19A and 15B contain the amino acid sequence of *H. pylori* polypeptide HPP19 (19A) (SEQ ID NO:400) and the nucleic acid sequence HPP19B (15B) (SEQ ID NO:15) which encodes HPP19;

Figure 20A contains the amino acid sequence of *H. pylori* polypeptide HPP20 (20A) (SEQ ID NO:401);

Figures 21A and 16B contain the amino acid sequence of *H. pylori* polypeptide HPP21 (21A) (SEQ ID NO:402) and the nucleic acid sequence HPP21B (16B) (SEQ ID NO:16) which encodes HPP21;

Figures 22A and 17B contain the amino acid sequence of *H. pylori* polypeptide HPP22 (22A) (SEQ ID NO:403) and the nucleic acid sequence HPP22B (17B) (SEQ ID NO:17) which encodes HPP22;

Figures 23A and 18B contain the amino acid sequence of *H. pylori* polypeptide HPP23 (23A) (SEQ ID NO:404) and the nucleic acid sequence HPP23B (18B) (SEQ ID NO:18) which encodes HPP23;

Figures 24A and 19B contain the amino acid sequence of *H. pylori* polypeptide HPP24 (24A) (SEQ ID NO:405) and the nucleic acid sequence HPP24B (19B) (SEQ ID NO:19) which encodes HPP24;

Figures 25A and 20B contain the amino acid sequence of *H. pylori* polypeptide HPP25 (25A) (SEQ ID NO:406) and the nucleic acid sequence HPP25B (20B) (SEQ ID NO:20) which encodes HPP25;

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Figure 26A contains the amino acid sequence of *H. pylori* polypeptide HPP26 (26A) (SEQ ID NO:407);

Figures 27A and 21B contain the amino acid sequence of *H. pylori* polypeptide HPP27 (27A) (SEQ ID NO:408) and the nucleic acid sequence HPP30B (21B) (SEQ ID NO:21) which encodes HPP27;

Figure 28A contains the amino acid sequence of *H. pylori* polypeptide HPP28 (28A) (SEQ ID NO:409);

Figure 29A contains the amino acid sequence of *H. pylori* polypeptide HPP29 (29A) (SEQ ID NO:410);

Figures 30A and 22B contain the amino acid sequence of *H. pylori* polypeptide HPP30 (30A) (SEQ ID NO:411) and the nucleic acid sequence HPP30B (22B) (SEQ ID NO:22) which encodes HPP30;

Figures 31A and 23B contain the amino acid sequence of *H. pylori* polypeptide HPP31 (31A) (SEQ ID NO:412) and the nucleic acid sequence HPP31B (23B) (SEQ ID NO:23) which encodes HPP31;

Figure 32A contains the amino acid sequence of *H. pylori* polypeptide HPP32 (32A);

Figure 33A contains the amino acid sequence of *H. pylori* polypeptide HPP33 (33A);

Figure 34A contains the amino acid sequence of *H. pylori* polypeptide HPP34 (34A) (SEQ ID NO:413);

Figure 35A contains the amino acid sequence of *H. pylori* polypeptide HPP35 (35A);

Figures 36A and 24B contain the amino acid sequence of *H. pylori* polypeptide HPP36 (36A) (SEQ ID NO:414) and the nucleic acid sequence HPP36B (24B) (SEQ ID NO:24) which encodes HPP36;

Figures 37A and 25B contain the amino acid sequence of *H. pylori* polypeptide HPP37 (37A) (SEQ ID NO:415) and the nucleic acid sequence HPP37B (25B) (SEQ ID NO:25) which encodes HPP37;

Figures 38A and 26B contain the amino acid sequence of *H. pylori* polypeptide HPP38 (38A) (SEQ ID NO:416) and the nucleic acid sequence HPP38B (26B) (SEQ ID NO:26) which encodes HPP38;

Figures 39A and 27B contain the amino acid sequence of *H. pylori* polypeptide HPP39 (39A) (SEQ ID NO:417) and the nucleic acid sequence HPP39B (27B) (SEQ ID NO:27) which encodes HPP39;

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Figures 40A and 28B contain the amino acid sequence of *H. pylori* polypeptide HPP40 (40A) (SEQ ID NO:418) and the nucleic acid sequence HPP40B (28B) (SEQ ID NO:28) which encodes HPP40;

Figure 41A contains the amino acid sequence of *H. pylori* polypeptide HPP41 (41A);

Figures 42A and 29B contain the amino acid sequence of *H. pylori* polypeptide HPP42 (42A) (SEQ ID NO:419) and the nucleic acid sequence HPP42B (29B) (SEQ ID NO:29) which encodes HPP42;

Figures 43A and 30B contain the amino acid sequence of *H. pylori* polypeptide HPP43 (43A) (SEQ ID NO:420) and the nucleic acid sequence HPP43B (30B) (SEQ ID NO:30) which encodes HPP43;

Figures 44A and 31B contain the amino acid sequence of *H. pylori* polypeptide HPP44 (44A) (SEQ ID NO:421) and the nucleic acid sequence HPP44B (31B) (SEQ ID NO:31) which encodes HPP44;

Figures 45A and 32B contain the amino acid sequence of *H. pylori* polypeptide HPP45 (45A) (SEQ ID NO:422) and the nucleic acid sequence HPP45B (32B) (SEQ ID NO:32) which encodes HPP45;

Figure 46A contains the amino acid sequence of *H. pylori* polypeptide HPP46 (46A);

Figures 47A and 33B contain the amino acid sequence of *H. pylori* polypeptide HPP47 (47A) (SEQ ID NO:423) and the nucleic acid sequence HPP47B (33B) (SEQ ID NO:33) which encodes HPP47;

Figures 48A and 34B contain the amino acid sequence of *H. pylori* polypeptide HPP48 (48A) (SEQ ID NO:424) and the nucleic acid sequence HPP48B (34B) (SEQ ID NO:34) which encodes HPP48;

Figures 49A and 35B contain the amino acid sequence of *H. pylori* polypeptide HPP49 (49A) (SEQ ID NO:425) and the nucleic acid sequence HPP49B (35B) (SEQ ID NO:35) which encodes HPP49;

Figures 50A and 36B contain the amino acid sequence of *H. pylori* polypeptide HPP50 (50A) (SEQ ID NO:426) and the nucleic acid sequence HPP50B (36B) (SEQ ID NO:36) which encodes HPP50;

Figures 51A and 37B contain the amino acid sequence of *H. pylori* polypeptide HPP51 (51A) (SEQ ID NO:427) and the nucleic acid sequence HPP51B (37B) (SEQ ID NO:37) which encodes HPP51;

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Figures 52A and 38B contain the amino acid sequence of *H. pylori* polypeptide HPP52 (52A) (SEQ ID NO:428) and the nucleic acid sequence HPP52B (38B) (SEQ ID NO:38) which encodes HPP52;

Figures 53A and 39B contain the amino acid sequence of *H. pylori* polypeptide HPP53 (53A) (SEQ ID NO:429) and the nucleic acid sequence HPP53B (39B) (SEQ ID NO:39) which encodes HPP53;

Figures 54A and 40B contain the amino acid sequence of *H. pylori* polypeptide HPP54 (54A) (SEQ ID NO:430) and the nucleic acid sequence HPP54B (40B) (SEQ ID NO:40) which encodes HPP54;

Figure 55A contains the amino acid sequence of *H. pylori* polypeptide HPP55 (55A) (SEQ ID NO:431);

Figures 56A and 41B contain the amino acid sequence of *H. pylori* polypeptide HPP56 (56A) (SEQ ID NO:432) and the nucleic acid sequence HPP56B (41B) (SEQ ID NO:41) which encodes HPP56;

Figures 57A and 42B contain the amino acid sequence of *H. pylori* polypeptide HPP57 (57A) (SEQ ID NO:433) and the nucleic acid sequence HPP57B (42B) (SEQ ID NO:42) which encodes HPP57;

Figure 58A contains the amino acid sequence of *H. pylori* polypeptide HPP58 (58A);

Figures 59A and 43B contain the amino acid sequence of *H. pylori* polypeptide HPP59 (59A) (SEQ ID NO:434) and the nucleic acid sequence HPP59B (43B) (SEQ ID NO:43) which encodes HPP59;

Figure 60A contains the amino acid sequence of *H. pylori* polypeptide HPP60 (60A) (SEQ ID NO:435);

Figures 61A and 44B contain the amino acid sequence of *H. pylori* polypeptide HPP61 (61A) (SEQ ID NO:436) and the nucleic acid sequence HPP61B (44B) (SEQ ID NO:44) which encodes HPP61;

Figures 62A and 45B contain the amino acid sequence of *H. pylori* polypeptide HPP62 (62A) (SEQ ID NO:437) and the nucleic acid sequence HPP62B (45B) (SEQ ID NO:45) which encodes HPP62;

Figures 63A and 46B contain the amino acid sequence of *H. pylori* polypeptide HPP63 (63A) (SEQ ID NO:438) and the nucleic acid sequence HPP63B (46B) (SEQ ID NO:46) which encodes HPP63;

Figures 64A and 47B contain the amino acid sequence of *H. pylori* polypeptide HPP64 (64A) (SEQ ID NO:439) and the nucleic acid sequence HPP64B (47B) (SEQ ID NO:47) which encodes HPP64;

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Figures 65A and 48B contain the amino acid sequence of *H. pylori* polypeptide HPP65 (65A) (SEQ ID NO:440) and the nucleic acid sequence HPP65B (48B) (SEQ ID NO:48) which encodes HPP65;

Figure 66A contains the amino acid sequence of *H. pylori* polypeptide HPP66 (66A);

Figures 67A and 49B contain the amino acid sequence of *H. pylori* polypeptide HPP67 (67A) (SEQ ID NO:441) and the nucleic acid sequence HPP67B (49B) (SEQ ID NO:49) which encodes HPP67;

Figure 68A contains the amino acid sequence of *H. pylori* polypeptide HPP68 (68A) (SEQ ID NO:442);

Figures 69A and 50B contain the amino acid sequence of *H. pylori* polypeptide HPP69 (69A) (SEQ ID NO:443) and the nucleic acid sequence HPP69B (50B) (SEQ ID NO:50) which encodes HPP69;

Figures 70A and 51B contain the amino acid sequence of *H. pylori* polypeptide HPP70 (70A) (SEQ ID NO:444) and the nucleic acid sequence HPP70B (51B) (SEQ ID NO:51) which encodes HPP70.

Figure 71A contains the amino acid sequence of *H. pylori* polypeptide HPP71 (71A) (SEQ ID NO:445);

Figures 72A and 52B contain the amino acid sequence of *H. pylori* polypeptide HPP72 (72A) (SEQ ID NO:446) and the nucleic acid sequence HPP72B (52B) (SEQ ID NO:52) which encodes HPP72;

Figures 73A and 53B contain the amino acid sequence of *H. pylori* polypeptide HPP73 (73A) (SEQ ID NO:447) and the nucleic acid sequence HPP73B (53B) (SEQ ID NO:53) which encodes HPP73;

Figures 74A and 54B contain the amino acid sequence of *H. pylori* polypeptide HPP74 (74A) (SEQ ID NO:448) and the nucleic acid sequence HPP74B (54B) (SEQ ID NO:54) which encodes HPP74;

Figure 75A contains the amino acid sequence of *H. pylori* polypeptide HPP75 (75A) (SEQ ID NO:449);

Figures 76A and 55B contain the amino acid sequence of *H. pylori* polypeptide HPP76 (76A) (SEQ ID NO:450) and the nucleic acid sequence HPP76B (55B) (SEQ ID NO:55) which encodes HPP76;

Figures 77A and 56B contain the amino acid sequence of *H. pylori* polypeptide HPP77 (77A) (SEQ ID NO:451) and the nucleic acid sequence HPP77B (56B) (SEQ ID NO:56) which encodes HPP77;

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Figures 78A and 57B contain the amino acid sequence of *H. pylori* polypeptide HPP78 (78A) (SEQ ID NO:452) and the nucleic acid sequence HPP78B (57B) (SEQ ID NO:57) which encodes HPP78;

Figures 79A and 58B contain the amino acid sequence of *H. pylori* polypeptide HPP79 (79A) (SEQ ID NO:453) and the nucleic acid sequence HPP79B (58B) (SEQ ID NO:58) which encodes HPP79;

Figures 80A and 59B contain the amino acid sequence of *H. pylori* polypeptide HPP80 (80A) (SEQ ID NO:454) and the nucleic acid sequence HPP80B (59B) (SEQ ID NO:59) which encodes HPP80;

Figures 81A and 60B contain the amino acid sequence of *H. pylori* polypeptide HPP81 (81A) (SEQ ID NO:455) and the nucleic acid sequence HPP81B (60B) (SEQ ID NO:60) which encodes HPP81;

Figures 82A and 61B contain the amino acid sequence of *H. pylori* polypeptide HPP82 (82A) (SEQ ID NO:456) and the nucleic acid sequence HPP82B (61B) (SEQ ID NO:61) which encodes HPP82;

Figures 83A and 62B contain the amino acid sequence of *H. pylori* polypeptide HPP83 (83A) (SEQ ID NO:457) and the nucleic acid sequence HPP83B (62B) (SEQ ID NO:62) which encodes HPP83;

Figures 84A and 63B contain the amino acid sequence of *H. pylori* polypeptide HPP84 (84A) (SEQ ID NO:458) and the nucleic acid sequence HPP84B (63B) (SEQ ID NO:63) which encodes HPP84;

Figures 85A and 64B contain the amino acid sequence of *H. pylori* polypeptide HPP85 (85A) (SEQ ID NO:459) and the nucleic acid sequence HPP85B (64B) (SEQ ID NO:64) which encodes HPP85;

Figures 86A and 65B contain the amino acid sequence of *H. pylori* polypeptide HPP86 (86A) (SEQ ID NO:460) and the nucleic acid sequence HPP86B (65B) (SEQ ID NO:65) which encodes HPP86;

Figures 87A and 66B contain the amino acid sequence of *H. pylori* polypeptide HPP87 (87A) (SEQ ID NO:461) and the nucleic acid sequence HPP87B (66B) (SEQ ID NO:66) which encodes HPP87;

Figures 88A and 67B contain the amino acid sequence of *H. pylori* polypeptide HPP88 (88A) (SEQ ID NO:462) and the nucleic acid sequence HPP88B (67B) (SEQ ID NO:67) which encodes HPP88;

Figure 89A contains the amino acid sequence of *H. pylori* polypeptide HPP89 (89A) (SEQ ID NO:463);

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Figure 90A contains the amino acid sequence of *H. pylori* polypeptide HPP90 (90A)(SEQ ID NO:464);

Figures 91A and 68B contain the amino acid sequence of *H. pylori* polypeptide HPP91 (91A) (SEQ ID NO:465) and the nucleic acid sequence HPP91B (68B) (SEQ ID NO:68) which encodes HPP91;

Figures 92A and 69B contain the amino acid sequence of *H. pylori* polypeptide HPP92 (92A) (SEQ ID NO:466) and the nucleic acid sequence HPP92B (69B) (SEQ ID NO:69) which encodes HPP92;

Figure 93A contains the amino acid sequence of *H. pylori* polypeptide HPP93 (93A);

Figure 94A contains the amino acid sequence of *H. pylori* polypeptide HPP94 (94A) (SEQ ID NO:467);

Figures 95A and 70B contain the amino acid sequence of *H. pylori* polypeptide HPP95 (95A) (SEQ ID NO:468) and the nucleic acid sequence HPP95B (70B) (SEQ ID NO:70) which encodes HPP95;

Figures 96A and 71B contain the amino acid sequence of *H. pylori* polypeptide HPP96 (96A) (SEQ ID NO:469) and the nucleic acid sequence HPP96B (71B) (SEQ ID NO:71) which encodes HPP96;

Figure 97A contains the amino acid sequence of *H. pylori* polypeptide HPP97 (97A) (SEQ ID NO:470);

Figures 98A and 72B contain the amino acid sequence of *H. pylori* polypeptide HPP98 (98A) (SEQ ID NO:471) and the nucleic acid sequence HPP98B (72B) (SEQ ID NO:72) which encodes HPP98;

Figures 99A and 73B contain the amino acid sequence of *H. pylori* polypeptide HPP99 (99A) (SEQ ID NO:472) and the nucleic acid sequence HPP99B (73B) (SEQ ID NO:73) which encodes HPP99;

Figures 100A and 74B contain the amino acid sequence of *H. pylori* polypeptide HPP100 (100A) (SEQ ID NO:473) and the nucleic acid sequence HPP100B (74B) (SEQ ID NO:74) which encodes HPP100;

Figure 101A contains the amino acid sequence of *H. pylori* polypeptide HPP101 (101A) (SEQ ID NO:474);

Figures 102A and 75B contain the amino acid sequence of *H. pylori* polypeptide HPP102 (102A) (SEQ ID NO:475) and the nucleic acid sequence HPP102B (75B) (SEQ ID NO:75) which encodes HPP102;

Figure 103A contains the amino acid sequence of *H. pylori* polypeptide HPP103 (103A) (SEQ ID NO:476);

Figure 104A contains the amino acid sequence of *H. pylori* polypeptide HPP104 (104A) (SEQ ID NO:477);

Figures 105A and 76B contain the amino acid sequence of *H. pylori* polypeptide HPP105 (105A) (SEQ ID NO:478) and the nucleic acid sequence HPP105B (76B) (SEQ ID NO:76) which encodes HPP105;

Figures 106A and 77B contain the amino acid sequence of *H. pylori* polypeptide HPP106 (106A) (SEQ ID NO:479) and the nucleic acid sequence HPP106B (77B) (SEQ ID NO:77) which encodes HPP106;

Figure 107A contains the amino acid sequence of *H. pylori* polypeptide HPP107 (107A) (SEQ ID NO:480);

Figures 108A and 78B contain the amino acid sequence of *H. pylori* polypeptide HPP108 (108A) (SEQ ID NO:481) and the nucleic acid sequence HPP108B (78B) (SEQ ID NO:78) which encodes HPP108;

Figures 109A and 79B contain the amino acid sequence of *H. pylori* polypeptide HPP109 (109A) (SEQ ID NO:482) and the nucleic acid sequence HPP109B (79B) (SEQ ID NO:79) which encodes HPP109;

Figure 110A contains the amino acid sequence of *H. pylori* polypeptide HPP110 (110A);

Figure 111A contains the amino acid sequence of *H. pylori* polypeptide HPP111 (111A);

Figures 112A and 80B contain the amino acid sequence of *H. pylori* polypeptide HPP112 (112A) (SEQ ID NO:483) and the nucleic acid sequence HPP112B (80B) (SEQ ID NO:80) which encodes HPP112;

Figures 113A and 81B contain the amino acid sequence of *H. pylori* polypeptide HPP113 (113A) (SEQ ID NO:484) and the nucleic acid sequence HPP113B (81B) (SEQ ID NO:81) which encodes HPP113;

Figure 114A contains the amino acid sequence of *H. pylori* polypeptide HPP114 (114A) (SEQ ID NO:485);

Figures 115A and 82B contain the amino acid sequence of *H. pylori* polypeptide HPP115 (115A) (SEQ ID NO:486) and the nucleic acid sequence HPP115B (82B) (SEQ ID NO:82) which encodes HPP115;

Figure 116A contains the amino acid sequence of *H. pylori* polypeptide HPP116 (116A) (SEQ ID NO:487);

Figures 117A and 83B contain the amino acid sequence of *H. pylori* polypeptide HPP117 (117A) (SEQ ID NO:488) and the nucleic acid sequence HPP117B (83B) (SEQ ID NO:83) which encodes HPP117;

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Figures 118A and 84B contain the amino acid sequence of *H. pylori* polypeptide HPP118 (118A) (SEQ ID NO:489) and the nucleic acid sequence HPP118B (84B) (SEQ ID NO:84) which encodes HPP118;

Figures 119A and 85B contain the amino acid sequence of *H. pylori* polypeptide HPP119 (119A) (SEQ ID NO:490) and the nucleic acid sequence HPP119B (85B) (SEQ ID NO:85) which encodes HPP119;

Figures 120A and 86B contain the amino acid sequence of *H. pylori* polypeptide HPP120 (120A) (SEQ ID NO:491) and the nucleic acid sequence HPP120B (86B) (SEQ ID NO:86) which encodes HPP120;

Figures 121A and 87B contain the amino acid sequence of *H. pylori* polypeptide HPP121 (121A) (SEQ ID NO:492) and the nucleic acid sequence HPP121B (87B) (SEQ ID NO:87) which encodes HPP121;

Figures 122A and 88B contain the amino acid sequence of *H. pylori* polypeptide HPP122 (122A) (SEQ ID NO:493) and the nucleic acid sequence HPP122B (88B) (SEQ ID NO:88) which encodes HPP122;

Figure 123A contains the amino acid sequence of *H. pylori* polypeptide HPP123 (123A);

Figure 124A contains the amino acid sequence of *H. pylori* polypeptide HPP124 (124A);

Figures 125A and 89B contain the amino acid sequence of *H. pylori* polypeptide HPP125 (125A) (SEQ ID NO:494) and the nucleic acid sequence HPP125B (89B) (SEQ ID NO:89) which encodes HPP125;

Figures 126A and 90B contain the amino acid sequence of *H. pylori* polypeptide HPP126 (126A) (SEQ ID NO:495) and the nucleic acid sequence HPP126B (90B) (SEQ ID NO:90) which encodes HPP126;

Figures 127A and 91B contain the amino acid sequence of *H. pylori* polypeptide HPP127 (127A) (SEQ ID NO:496) and the nucleic acid sequence HPP127B (91B) (SEQ ID NO:91) which encodes HPP127;

Figures 128A and 92B contain the amino acid sequence of *H. pylori* polypeptide HPP128 (128A) (SEQ ID NO:497) and the nucleic acid sequence HPP128B (92B) (SEQ ID NO:92) which encodes HPP128;

Figures 129A and 93B contain the amino acid sequence of *H. pylori* polypeptide HPP129 (129A) (SEQ ID NO:498) and the nucleic acid sequence HPP129B (93B) (SEQ ID NO:93) which encodes HPP129;

Figures 130A and 94B contain the amino acid sequence of *H. pylori* polypeptide HPP130 (130A) (SEQ ID NO:499) and the nucleic acid sequence HPP130B (94B) (SEQ ID NO:94) which encodes HPP130;

Figures 131A and 95B contain the amino acid sequence of *H. pylori* polypeptide HPP131 (131A) (SEQ ID NO:500) and the nucleic acid sequence HPP131B (95B) (SEQ ID NO:95) which encodes HPP131;

Figures 132A and 96B contain the amino acid sequence of *H. pylori* polypeptide HPP132 (132A) (SEQ ID NO:501) and the nucleic acid sequence HPP132B (96B) (SEQ ID NO:96) which encodes HPP132;

Figure 133A contains the amino acid sequence of *H. pylori* polypeptide HPP133 (133A) (SEQ ID NO:502);

Figures 134A and 97B contains the amino acid sequence of *H. pylori* polypeptide HPP134 (134A) (SEQ ID NO:503) and the nucleic acid sequence HPP134B (97B) (SEQ ID NO:97) which encodes HPP134;

Figures 135A and 98B contain the amino acid sequence of *H. pylori* polypeptide HPP135 (135A) (SEQ ID NO:504) and the nucleic acid sequence HPP135B (98B) (SEQ ID NO:98) which encodes HPP135;

Figure 136A contains the amino acid sequence of *H. pylori* polypeptide HPP136 (136A);

Figures 137A and 99B contain the amino acid sequence of *H. pylori* polypeptide HPP137 (137A) (SEQ ID NO:505) and the nucleic acid sequence HPP137B (99B) (SEQ ID NO:99) which encodes HPP137;

Figures 138A and 100B contain the amino acid sequence of *H. pylori* polypeptide HPP138 (138A) (SEQ ID NO:506) and the nucleic acid sequence HPP138B (100B) (SEQ ID NO:100) which encodes HPP138;

Figure 139A contains the amino acid sequence of *H. pylori* polypeptide HPP139 (139A) (SEQ ID NO:507);

Figure 140A contains the amino acid sequence of *H. pylori* polypeptide HPP140 (140A) (SEQ ID NO:508);

Figure 141A contains the amino acid sequence of *H. pylori* polypeptide HPP141 (141A);

Figures 142A and 101B contain the amino acid sequence of *H. pylori* polypeptide HPP142 (142A) (SEQ ID NO:509) and the nucleic acid sequence HPP142B (101B) (SEQ ID NO:101) which encodes HPP142;

Figures 143A and 102B contain the amino acid sequence of *H. pylori* polypeptide HPP143 (143A) (SEQ ID NO:510) and the nucleic acid sequence HPP143B (102B) (SEQ ID NO:102) which encodes HPP143;

Figure 144A contains the amino acid sequence of *H. pylori* polypeptide HPP144 (144A) (SEQ ID NO:511);

Figures 145A and 103B contain the amino acid sequence of *H. pylori* polypeptide HPP145 (145A) (SEQ ID NO:512) and the nucleic acid sequence HPP145B (103B) (SEQ ID NO:103) which encodes HPP145;

Figures 146A and 104B contain the amino acid sequence of *H. pylori* polypeptide HPP146 (146A) (SEQ ID NO:513) and the nucleic acid sequence HPP146B (104B) (SEQ ID NO:104) which encodes HPP146;

Figures 147A and 105B contain the amino acid sequence of *H. pylori* polypeptide HPP147 (147A) (SEQ ID NO:514) and the nucleic acid sequence HPP147B (105B) (SEQ ID NO:105) which encodes HPP147;

Figure 148A contains the amino acid sequence of *H. pylori* polypeptide HPP148 (148A) (SEQ ID NO:515);

Figures 149A and 106B contain the amino acid sequence of *H. pylori* polypeptide HPP149 (149A) (SEQ ID NO:516) and the nucleic acid sequence HPP149B (106B) (SEQ ID NO:106) which encodes HPP149;

Figure 150A contains the amino acid sequence of *H. pylori* polypeptide HPP150 (150A) (SEQ ID NO:517);

Figures 151A and 107B contain the amino acid sequence of *H. pylori* polypeptide HPP151 (151A) (SEQ ID NO:518) and the nucleic acid sequence HPP151B (107B) (SEQ ID NO:107) which encodes HPP151;

Figures 152A and 108B contain the amino acid sequence of *H. pylori* polypeptide HPP152 (152A) (SEQ ID NO:519) and the nucleic acid sequence HPP152B (108B) (SEQ ID NO:108) which encodes HPP152;

Figures 153A and 109B contain the amino acid sequence of *H. pylori* polypeptide HPP153 (153A) (SEQ ID NO:520) and the nucleic acid sequence HPP153B (109B) (SEQ ID NO:109) which encodes HPP153A;

Figure 154A contains the amino acid sequence of *H. pylori* polypeptide HPP154 (154A) (SEQ ID NO:521);

Figures 155A and 110B contain the amino acid sequence of *H. pylori* polypeptide HPP155 (155A) (SEQ ID NO:522) and the nucleic acid sequence HPP155B (110B) (SEQ ID NO:110) which encodes HPP155;

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Figure 156A contains the amino acid sequence of *H. pylori* polypeptide HPP156 (156A);

Figure 157A contains the amino acid sequence of *H. pylori* polypeptide HPP157 (157A);

Figures 158A and 111B contain the amino acid sequence of *H. pylori* polypeptide HPP158 (158A) (SEQ ID NO:523) and the nucleic acid sequence HPP158B (111B) (SEQ ID NO:111) which encodes HPP158;

Figures 159A and 112B contain the amino acid sequence of *H. pylori* polypeptide HPP159 (159A) (SEQ ID NO:524) and the nucleic acid sequence HPP159B (112B) (SEQ ID NO:112) which encodes HPP159;

Figures 160A and 113B contain the amino acid sequence of *H. pylori* polypeptide HPP160 (160A) (SEQ ID NO:525) and the nucleic acid sequence HPP160B (113B) (SEQ ID NO:113) which encodes HPP160;

Figure 161A contains the amino acid sequence of *H. pylori* polypeptide HPP161 (161A) (SEQ ID NO:526);

Figures 162A and 114B contain the amino acid sequence of *H. pylori* polypeptide HPP162 (162A) (SEQ ID NO:527) and the nucleic acid sequence HPP162B (114B) (SEQ ID NO:114) which encodes HPP162;

Figures 163A and 115B contain the amino acid sequence of *H. pylori* polypeptide HPP163 (163A) (SEQ ID NO:528) and the nucleic acid sequence HPP163B (115B) (SEQ ID NO:115) which encodes HPP163;

Figures 164A and 116B contain the amino acid sequence of *H. pylori* polypeptide HPP164 (164A) (SEQ ID NO:529) and the nucleic acid sequence HPP164B (116B) (SEQ ID NO:116) which encodes HPP164;

Figures 165A and 117B contain the amino acid sequence of *H. pylori* polypeptide HPP165 (165A) (SEQ ID NO:530) and the nucleic acid sequence HPP165B (117B) (SEQ ID NO:117) which encodes HPP165;

Figures 166A and 118B contain the amino acid sequence of *H. pylori* polypeptide HPP166 (166A) (SEQ ID NO:531) and the nucleic acid sequence HPP166B (118B) (SEQ ID NO:118) which encodes HPP166;

Figures 167A and 119B contain the amino acid sequence of *H. pylori* polypeptide HPP167 (167A) (SEQ ID NO:532) and the nucleic acid sequence HPP167B (119B) (SEQ ID NO:119) which encodes HPP167;

Figure 168A contains the amino acid sequence of *H. pylori* polypeptide HPP168 (168A);

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Figures 169A and 120B contain the amino acid sequence of *H. pylori* polypeptide HPP169 (169A) (SEQ ID NO:533) and the nucleic acid sequence HPP169B (120B) (SEQ ID NO:120) which encodes HPP169;

Figure 170A contains the amino acid sequence of *H. pylori* polypeptide HPP170 (170A) (SEQ ID NO:534);

Figures 171A and 121B contain the amino acid sequence of *H. pylori* polypeptide HPP171 (171A) (SEQ ID NO:535) and the nucleic acid sequence HPP171B (121B) (SEQ ID NO:121) which encodes HPP171;

Figures 172A and 122B contain the amino acid sequence of *H. pylori* polypeptide HPP172 (172A) (SEQ ID NO:536) and the nucleic acid sequence HPP172B (122B) (SEQ ID NO:122) which encodes HPP172;

Figure 173A contains the amino acid sequence of *H. pylori* polypeptide HPP173 (173A);

Figures 174A and 123B contain the amino acid sequence of *H. pylori* polypeptide HPP174 (174A) (SEQ ID NO:537) and the nucleic acid sequence HPP174B (123B) (SEQ ID NO:123) which encodes HPP174;

Figure 175A contains the amino acid sequence of *H. pylori* polypeptide HPP175 (175A) (SEQ ID NO:538);

Figures 176A and 124B contain the amino acid sequence of *H. pylori* polypeptide HPP176 (176A) (SEQ ID NO:539) and the nucleic acid sequence HPP176B (124B) (SEQ ID NO:124) which encodes HPP176;

Figures 177A and 125B contain the amino acid sequence of *H. pylori* polypeptide HPP177 (177A) (SEQ ID NO:540) and the nucleic acid sequence HPP177B (125B) (SEQ ID NO:125) which encodes HPP177;

Figure 178A contains the amino acid sequence of *H. pylori* polypeptide HPP178 (178A) (SEQ ID NO:541);

Figures 179A and 126B contain the amino acid sequence of *H. pylori* polypeptide HPP179 (179A) (SEQ ID NO:542) and the nucleic acid sequence HPP179B (126B) (SEQ ID NO:126) which encodes HPP179;

Figures 180A and 127B contain the amino acid sequence of *H. pylori* polypeptide HPP180 (180A) (SEQ ID NO:543) and the nucleic acid sequence HPP180B (127B) (SEQ ID NO:127) which encodes HPP180;

Figures 181A and 128B contain the amino acid sequence of *H. pylori* polypeptide HPP181 (181A) (SEQ ID NO:544) and the nucleic acid sequence HPP181B (128B) (SEQ ID NO:128) which encodes HPP181;

Figure 182A contains the amino acid sequence of *H. pylori* polypeptide HPP182 (182A);

Figure 183A contains the amino acid sequence of *H. pylori* polypeptide HPP183 (183A) (SEQ ID NO:545);

Figures 184A and 129B contain the amino acid sequence of *H. pylori* polypeptide HPP184 (184A) (SEQ ID NO:546) and the nucleic acid sequence HPP184B (129B) (SEQ ID NO:129) which encodes HPP184;

Figures 185A and 130B contain the amino acid sequence of *H. pylori* polypeptide HPP185 (185A) (SEQ ID NO:547) and the nucleic acid sequence HPP185B (130B) (SEQ ID NO:130) which encodes HPP185;

Figures 186A and 131B contain the amino acid sequence of *H. pylori* polypeptide HPP186 (186A) (SEQ ID NO:548) and the nucleic acid sequence HPP186B (131B) (SEQ ID NO:131) which encodes HPP186;

Figure 187A contains the amino acid sequence of *H. pylori* polypeptide HPP187 (187A) (SEQ ID NO:549);

Figures 188A and 132B contain the amino acid sequence of *H. pylori* polypeptide HPP188 (188A) (SEQ ID NO:550) and the nucleic acid sequence HPP188B (132B) (SEQ ID NO:132) which encodes HPP188;

Figure 189A contains the amino acid sequence of *H. pylori* polypeptide HPP189 (189A) (SEQ ID NO:551);

Figure 190A contains the amino acid sequence of *H. pylori* polypeptide HPP190 (190A) (SEQ ID NO:552);

Figures 191A and 133B contain the amino acid sequence of *H. pylori* polypeptide HPP191 (191A) (SEQ ID NO:553) and the nucleic acid sequence HPP191B (133B) (SEQ ID NO:133) which encodes HPP191;

Figures 192A and 134B contain the amino acid sequence of *H. pylori* polypeptide HPP192 (192A) (SEQ ID NO:554) and the nucleic acid sequence HPP192B (134B) (SEQ ID NO:134) which encodes HPP192;

Figures 193A and 135B contain the amino acid sequence of *H. pylori* polypeptide HPP193 (193A) (SEQ ID NO:555) and the nucleic acid sequence HPP193B (135B) (SEQ ID NO:135) which encodes HPP193;

Figures 194A and 136B contain the amino acid sequence of *H. pylori* polypeptide HPP194 (194A) (SEQ ID NO:556) and the nucleic acid sequence HPP194B (136B) (SEQ ID NO:136) which encodes HPP194;

Figure 195A contains the amino acid sequence of *H. pylori* polypeptide HPP195 (195A) (SEQ ID NO:557);

*Fig. cont.*

Figures 196A and 137B contain the amino acid sequence of *H. pylori* polypeptide HPP196 (196A) (SEQ ID NO:558) and the nucleic acid sequence HPP196B (137B) (SEQ ID NO:137) which encodes HPP196;

Figure 197A contains the amino acid sequence of *H. pylori* polypeptide HPP197 (197A) (SEQ ID NO:559);

Figures 198A and 138B contain the amino acid sequence of *H. pylori* polypeptide HPP198 (198A) (SEQ ID NO:560) and the nucleic acid sequence HPP198B (138B) (SEQ ID NO:138) which encodes HPP198;

Figure 199A contains the amino acid sequence of *H. pylori* polypeptide HPP199 (199A) (SEQ ID NO:561);

Figures 200A and 139B contain the amino acid sequence of *H. pylori* polypeptide HPP200 (200A) (SEQ ID NO:562) and the nucleic acid sequence HPP200B (139B) (SEQ ID NO:139) which encodes HPP200;

Figures 201A and 140B contain the amino acid sequence of *H. pylori* polypeptide HPP201 (201A) (SEQ ID NO:563) and the nucleic acid sequence HPP201B (140B) (SEQ ID NO:140) which encodes HPP201;

Figures 202A and 141B contain the amino acid sequence of *H. pylori* polypeptide HPP202 (202A) (SEQ ID NO:564) and the nucleic acid sequence HPP202B (141B) (SEQ ID NO:141) which encodes HPP202;

Figures 203A and 142B contain the amino acid sequence of *H. pylori* polypeptide HPP203 (203A) (SEQ ID NO:565) and the nucleic acid sequence HPP203B (142B) (SEQ ID NO:142) which encodes HPP203;

Figure 204A contains the amino acid sequence of *H. pylori* polypeptide HPP204 (204A);

Figures 205A and 143B contain the amino acid sequence of *H. pylori* polypeptide HPP205 (205A) (SEQ ID NO:566) and the nucleic acid sequence HPP205B (143B) (SEQ ID NO:143) which encodes HPP205;

Figure 206A contains the amino acid sequence of *H. pylori* polypeptide HPP206 (206A);

Figures 207A and 144B contain the amino acid sequence of *H. pylori* polypeptide HPP207 (207A) (SEQ ID NO:567) and the nucleic acid sequence HPP207B (144B) (SEQ ID NO:144) which encodes HPP207;

Figures 208A and 145B contain the amino acid sequence of *H. pylori* polypeptide HPP208 (208A) (SEQ ID NO:568) and the nucleic acid sequence HPP208B (145B) (SEQ ID NO:145) which encodes HPP208;

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Figure 209A contains the amino acid sequence of *H. pylori* polypeptide HPP209 (209A) (SEQ ID NO:569);

Figures 210A and 146B contain the amino acid sequence of *H. pylori* polypeptide HPP210 (210A) (SEQ ID NO:570) and the nucleic acid sequence HPP210B (146B) (SEQ ID NO:146) which encodes HPP210;

Figure 211A contains the amino acid sequence of *H. pylori* polypeptide HPP211 (211A) (SEQ ID NO:571);

Figures 212A and 147B contain the amino acid sequence of *H. pylori* polypeptide HPP212 (212A) (SEQ ID NO:572) and the nucleic acid sequence HPP212B (147B) (SEQ ID NO:147) which encodes HPP212;

Figures 213A and 148B contain the amino acid sequence of *H. pylori* polypeptide HPP213 (213A) (SEQ ID NO:573) and the nucleic acid sequence HPP213B (148B) (SEQ ID NO:148) which encodes HPP213;

Figures 214A and 149B contain the amino acid sequence of *H. pylori* polypeptide HPP214 (214A) (SEQ ID NO:574) and the nucleic acid sequence HPP214B (149B) (SEQ ID NO:149) which encodes HPP214;

Figures 215A and 150B contain the amino acid sequence of *H. pylori* polypeptide HPP215 (215A) (SEQ ID NO:575) and the nucleic acid sequence HPP215B (150B) (SEQ ID NO:150) which encodes HPP215;

Figures 216A and 151B contain the amino acid sequence of *H. pylori* polypeptide HPP216 (216A) (SEQ ID NO:576) and the nucleic acid sequence HPP216B (151B) (SEQ ID NO:151) which encodes HPP216;

Figures 217A and 152B contain the amino acid sequence of *H. pylori* polypeptide HPP217 (217A) (SEQ ID NO:577) and the nucleic acid sequence HPP217B (152B) (SEQ ID NO:152) which encodes HPP217;

Figures 218A and 153B contain the amino acid sequence of *H. pylori* polypeptide HPP218 (218A) (SEQ ID NO:578) and the nucleic acid sequence HPP218B (153B) (SEQ ID NO:153) which encodes HPP218;

Figures 219A and 154B contain the amino acid sequence of *H. pylori* polypeptide HPP219 (219A) (SEQ ID NO:579) and the nucleic acid sequence HPP219B (154B) (SEQ ID NO:154) which encodes HPP219;

Figure 220A contains the amino acid sequence of *H. pylori* polypeptide HPP220 (220A) (SEQ ID NO:580);

Figures 221A and 155B contain the amino acid sequence of *H. pylori* polypeptide HPP221 (221A) (SEQ ID NO:581) and the nucleic acid sequence HPP221B (155B) (SEQ ID NO:155) which encodes HPP221;

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Figures 222A and 156B contain the amino acid sequence of *H. pylori* polypeptide HPP222 (222A) (SEQ ID NO:582) and the nucleic acid sequence HPP222B (156B) (SEQ ID NO:156) which encodes HPP222;

Figures 223A and 157B contain the amino acid sequence of *H. pylori* polypeptide HPP223 (223A) (SEQ ID NO:583) and the nucleic acid sequence HPP223B (157B) (SEQ ID NO:157) which encodes HPP223;

Figure 224A contains the amino acid sequence of *H. pylori* polypeptide HPP224 (224A) (SEQ ID NO:584);

Figures 225A and 158B contain the amino acid sequence of *H. pylori* polypeptide HPP225 (225A) (SEQ ID NO:585) and the nucleic acid sequence HPP225B (158B) (SEQ ID NO:158) which encodes HPP225;

Figures 226A and 159B contain the amino acid sequence of *H. pylori* polypeptide HPP226 (226A) (SEQ ID NO:586) and the nucleic acid sequence HPP226B (159B) (SEQ ID NO:159) which encodes HPP226;

Figures 227A and 160B contain the amino acid sequence of *H. pylori* polypeptide HPP227 (227A) (SEQ ID NO:587) and the nucleic acid sequence HPP227B (160B) (SEQ ID NO:160) which encodes HPP227;

Figures 228A and 161B contain the amino acid sequence of *H. pylori* polypeptide HPP228 (228A) (SEQ ID NO:588) and the nucleic acid sequence HPP228B (161B) (SEQ ID NO:161) which encodes HPP228;

Figures 229A and 162B contain the amino acid sequence of *H. pylori* polypeptide HPP229 (229A) (SEQ ID NO:589) and the nucleic acid sequence HPP229B (162B) (SEQ ID NO:162) which encodes HPP229;

Figures 230A and 163B contain the amino acid sequence of *H. pylori* polypeptide HPP230 (230A) (SEQ ID NO:590) and the nucleic acid sequence HPP230B (163B) (SEQ ID NO:163) which encodes HPP230;

Figures 231A and 164B contain the amino acid sequence of *H. pylori* polypeptide HPP231 (231A) (SEQ ID NO:591) and the nucleic acid sequence HPP231B (164B) (SEQ ID NO:164) which encodes HPP231;

Figures 232A and 165B contain the amino acid sequence of *H. pylori* polypeptide HPP232 (232A) (SEQ ID NO:592) and the nucleic acid sequence HPP232B (165B) (SEQ ID NO:165) which encodes HPP232;

Figures 233A and 166B contain the amino acid sequence of *H. pylori* polypeptide HPP233 (233A) (SEQ ID NO:593) and the nucleic acid sequence HPP233B (166B) (SEQ ID NO:166) which encodes HPP233;

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Figure 234A contains the amino acid sequence of *H. pylori* polypeptide HPP234 (234A) (SEQ ID NO:594);

Figure 235A contains the amino acid sequence of *H. pylori* polypeptide HPP235 (235A) (SEQ ID NO:595);

Figures 236A and 167B contain the amino acid sequence of *H. pylori* polypeptide HPP236 (236A) (SEQ ID NO:596) and the nucleic acid sequence HPP236B (167B) (SEQ ID NO:167) which encodes HPP236;

Figures 237A and 168B contain the amino acid sequence of *H. pylori* polypeptide HPP237 (237A) (SEQ ID NO:597) and the nucleic acid sequence HPP237B (168B) (SEQ ID NO:168) which encodes HPP237;

Figures 238A and 169B contain the amino acid sequence of *H. pylori* polypeptide HPP238 (238A) (SEQ ID NO:598) and the nucleic acid sequence HPP238B (169B) (SEQ ID NO:169) which encodes HPP238;

Figures 239A and 170B contain the amino acid sequence of *H. pylori* polypeptide HPP239 (239A) (SEQ ID NO:599) and the nucleic acid sequence HPP239B (170B) (SEQ ID NO:170) which encodes HPP239;

Figures 240A and 171B contain the amino acid sequence of *H. pylori* polypeptide HPP240 (240A) (SEQ ID NO:600) and the nucleic acid sequence HPP240B (171B) (SEQ ID NO:171) which encodes HPP240;

Figures 241A and 172B contain the amino acid sequence of *H. pylori* polypeptide HPP241 (241A) (SEQ ID NO:601) and the nucleic acid sequence HPP241B (172B) (SEQ ID NO:172) which encodes HPP241;

Figures 242A and 173B contain the amino acid sequence of *H. pylori* polypeptide HPP242 (242A) (SEQ ID NO:602) and the nucleic acid sequence HPP242B (173B) (SEQ ID NO:173) which encodes HPP242;

Figure 243A contains the amino acid sequence of *H. pylori* polypeptide HPP243 (243A);

Figures 244A and 174B contain the amino acid sequence of *H. pylori* polypeptide HPP244 (244A) (SEQ ID NO:603) and the nucleic acid sequence HPP244B (174B) (SEQ ID NO:174) which encodes HPP244;

Figures 245A and 175B contain the amino acid sequence of *H. pylori* polypeptide HPP245 (245A) (SEQ ID NO:604) and the nucleic acid sequence HPP245B (175B) (SEQ ID NO:175) which encodes HPP245;

Figures 246A and 176B contain the amino acid sequence of *H. pylori* polypeptide HPP246 (246A) (SEQ ID NO:605) and the nucleic acid sequence HPP246B (176B) (SEQ ID NO:176) which encodes HPP246;

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Figures 247A and 177B contain the amino acid sequence of *H. pylori* polypeptide HPP247 (247A) (SEQ ID NO:606) and the nucleic acid sequence HPP247B (177B) (SEQ ID NO:177) which encodes HPP247;

Figures 248A and 178B contain the amino acid sequence of *H. pylori* polypeptide HPP248 (248A) (SEQ ID NO:607) and the nucleic acid sequence HPP248B (178B) (SEQ ID NO:178) which encodes HPP248;

Figures 249A and 179B contain the amino acid sequence of *H. pylori* polypeptide HPP249 (249A) (SEQ ID NO:608) and the nucleic acid sequence HPP249B (179B) (SEQ ID NO:179) which encodes HPP249;

Figures 250A and 180B contain the amino acid sequence of *H. pylori* polypeptide HPP250 (250A) (SEQ ID NO:609) and the nucleic acid sequence HPP250B (180B) (SEQ ID NO:180) which encodes HPP250;

Figures 251A and 181B contain the amino acid sequence of *H. pylori* polypeptide HPP251 (251A) (SEQ ID NO:610) and the nucleic acid sequence HPP251B (181B) (SEQ ID NO:181) which encodes HPP251;

Figures 252A and 182B contain the amino acid sequence of *H. pylori* polypeptide HPP252 (252A) (SEQ ID NO:611) and the nucleic acid sequence HPP252B (182B) (SEQ ID NO:182) which encodes HPP252;

Figures 253A and 183B contain the amino acid sequence of *H. pylori* polypeptide HPP253 (253A) (SEQ ID NO:612) and the nucleic acid sequence HPP253B (183B) (SEQ ID NO:183) which encodes HPP253;

Figures 254A and 184B contain the amino acid sequence of *H. pylori* polypeptide HPP254 (254A) (SEQ ID NO:613) and the nucleic acid sequence HPP254B (184B) (SEQ ID NO:184) which encodes HPP254;

Figures 255A and 185B contain the amino acid sequence of *H. pylori* polypeptide HPP255 (255A) (SEQ ID NO:614) and the nucleic acid sequence HPP255B (185B) (SEQ ID NO:185) which encodes HPP255;

Figure 256A contains the amino acid sequence of *H. pylori* polypeptide HPP256 (256A) (SEQ ID NO:615);

Figure 257A contains the amino acid sequence of *H. pylori* polypeptide HPP257 (257A) (SEQ ID NO:616);

Figures 258A and 186B contain the amino acid sequence of *H. pylori* polypeptide HPP258 (258A) (SEQ ID NO:617) and the nucleic acid sequence HPP258B (186B) (SEQ ID NO:186) which encodes HPP258;

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Figures 259A and 187B contain the amino acid sequence of *H. pylori* polypeptide HPP259 (259A) (SEQ ID NO:618) and the nucleic acid sequence HPP259B (187B) (SEQ ID NO:187) which encodes HPP259;

Figures 260A and 188B contain the amino acid sequence of *H. pylori* polypeptide HPP260 (260A) (SEQ ID NO:619) and the nucleic acid sequence HPP260B (188B) (SEQ ID NO:188) which encodes HPP260;

Figures 261A and 189B contain the amino acid sequence of *H. pylori* polypeptide HPP261 (261A) (SEQ ID NO:620) and the nucleic acid sequence HPP261B (189B) (SEQ ID NO:189) which encodes HPP261;

Figures 262A and 190B contain the amino acid sequence of *H. pylori* polypeptide HPP262 (262A) (SEQ ID NO:621) and the nucleic acid sequence HPP262B (190B) (SEQ ID NO:190) which encodes HPP262;

Figures 263A and 191B contain the amino acid sequence of *H. pylori* polypeptide HPP263 (263A) (SEQ ID NO:622) and the nucleic acid sequence HPP263B (191B) (SEQ ID NO:191) which encodes HPP263;

Figures 264A and 192B contain the amino acid sequence of *H. pylori* polypeptide HPP264 (264A) (SEQ ID NO:623) and the nucleic acid sequence HPP264B (192B) (SEQ ID NO:192) which encodes HPP264;

Figure 265A contains the amino acid sequence of *H. pylori* polypeptide HPP265 (265A) (SEQ ID NO:624);

Figures 266A and 193B contain the amino acid sequence of *H. pylori* polypeptide HPP266 (266A) (SEQ ID NO:625) and the nucleic acid sequence HPP266B (193B) (SEQ ID NO:193) which encodes HPP266;

Figure 267A contains the amino acid sequence of *H. pylori* polypeptide HPP267 (267A) (SEQ ID NO:626);

Figures 268A and 194B contain the amino acid sequence of *H. pylori* polypeptide HPP268 (268A) (SEQ ID NO:627) and the nucleic acid sequence HPP268B (194B) (SEQ ID NO:194) which encodes HPP268;

Figure 269A contains the amino acid sequence of *H. pylori* polypeptide HPP269 (269A) (SEQ ID NO:628);

Figures 270A and 195B contain the amino acid sequence of *H. pylori* polypeptide HPP270 (270A) (SEQ ID NO:629) and the nucleic acid sequence HPP270B (195B) (SEQ ID NO:195) which encodes HPP270;

Figures 271A and 196B contain the amino acid sequence of *H. pylori* polypeptide HPP271 (271A) (SEQ ID NO:630) and the nucleic acid sequence HPP271B (196B) (SEQ ID NO:196) which encodes HPP271;

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Figures 272A and 197B contain the amino acid sequence of *H. pylori* polypeptide HPP272 (272A) (SEQ ID NO:631) and the nucleic acid sequence HPP272B (197B) (SEQ ID NO:197) which encodes HPP272;

Figure 273A contains the amino acid sequence of *H. pylori* polypeptide HPP273 (273A) (SEQ ID NO:632);

Figures 274A and 198B contain the amino acid sequence of *H. pylori* polypeptide HPP274 (274A) (SEQ ID NO:633) and the nucleic acid sequence HPP274B (198B) (SEQ ID NO:198) which encodes HPP274;

Figure 275A contains the amino acid sequence of *H. pylori* polypeptide HPP275 (275A) (SEQ ID NO:634);

Figures 276A and 199B contain the amino acid sequence of *H. pylori* polypeptide HPP276 (276A) (SEQ ID NO:635) and the nucleic acid sequence HPP276B (199B) (SEQ ID NO:199) which encodes HPP276;

Figures 277A and 200B contain the amino acid sequence of *H. pylori* polypeptide HPP277 (277A) (SEQ ID NO:636) and the nucleic acid sequence HPP277B (200B) (SEQ ID NO:200) which encodes HPP277;

Figure 278A contains the amino acid sequence of *H. pylori* polypeptide HPP278 (278A);

Figure 279A contains the amino acid sequence of *H. pylori* polypeptide HPP279 (279A) (SEQ ID NO:637);

Figures 280A and 201B contain the amino acid sequence of *H. pylori* polypeptide HPP280 (280A) (SEQ ID NO:638) and the nucleic acid sequence HPP280B (201B) (SEQ ID NO:201) which encodes HPP280;

Figures 281A and 202B contain the amino acid sequence of *H. pylori* polypeptide HPP281 (281A) (SEQ ID NO:639) and the nucleic acid sequence HPP281B (202B) (SEQ ID NO:202) which encodes HPP281;

Figures 282A and 203B contain the amino acid sequence of *H. pylori* polypeptide HPP282 (282A) (SEQ ID NO:640) and the nucleic acid sequence HPP282B (203B) (SEQ ID NO:203) which encodes HPP282;

Figure 283A contains the amino acid sequence of *H. pylori* polypeptide HPP283 (283A) (SEQ ID NO:641);

Figures 284A and 204B contain the amino acid sequence of *H. pylori* polypeptide HPP284 (284A) (SEQ ID NO:642) and the nucleic acid sequence HPP284B (204B) (SEQ ID NO:204) which encodes HPP284;

Figure 285A contains the amino acid sequence of *H. pylori* polypeptide HPP285 (285A);

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Figures 286A and 205B contain the amino acid sequence of *H. pylori* polypeptide HPP286 (286A) (SEQ ID NO:643) and the nucleic acid sequence HPP286B (205B) (SEQ ID NO:205) which encodes HPP286;

Figure 287A contains the amino acid sequence of *H. pylori* polypeptide HPP287 (287A) (SEQ ID NO:644);

Figure 288A contains the amino acid sequence of *H. pylori* polypeptide HPP288 (288A) (SEQ ID NO:645);

Figure 289A contains the amino acid sequence of *H. pylori* polypeptide HPP289 (289A) (SEQ ID NO:646);

Figures 290A and 206B contain the amino acid sequence of *H. pylori* polypeptide HPP290 (290A) (SEQ ID NO:647) and the nucleic acid sequence HPP290B (206B) (SEQ ID NO:206) which encodes HPP290;

Figure 291A contains the amino acid sequence of *H. pylori* polypeptide HPP291 (291A) (SEQ ID NO:648);

Figures 292A and 207B contain the amino acid sequence of *H. pylori* polypeptide HPP292 (292A) (SEQ ID NO:649) and the nucleic acid sequence HPP292B (207B) (SEQ ID NO:207) which encodes HPP292;

Figures 293A and 208B contain the amino acid sequence of *H. pylori* polypeptide HPP293 (293A) (SEQ ID NO:650) and the nucleic acid sequence HPP293B (208B) (SEQ ID NO:208) which encodes HPP293;

Figure 294A contains the amino acid sequence of *H. pylori* polypeptide HPP294 (294A);

Figures 295A and 209B contain the amino acid sequence of *H. pylori* polypeptide HPP295 (295A) (SEQ ID NO:651) and the nucleic acid sequence HPP295B (209B) (SEQ ID NO:209) which encodes HPP295;

Figure 296A contains the amino acid sequence of *H. pylori* polypeptide HPP296 (296A) (SEQ ID NO:652);

Figures 297A and 210B contain the amino acid sequence of *H. pylori* polypeptide HPP297 (297A) (SEQ ID NO:653) and the nucleic acid sequence HPP297B (210B) (SEQ ID NO:210) which encodes HPP297;

Figures 298A and 211B contain the amino acid sequence of *H. pylori* polypeptide HPP298 (298A) (SEQ ID NO:654) and the nucleic acid sequence HPP298B (211B) (SEQ ID NO:211) which encodes HPP298;

Figures 299A and 212B contain the amino acid sequence of *H. pylori* polypeptide HPP299 (299A) (SEQ ID NO:655) and the nucleic acid sequence HPP299B (212B) (SEQ ID NO:212) which encodes HPP299;

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Figures 300A and 213B contain the amino acid sequence of *H. pylori* polypeptide HPP300 (300A) (SEQ ID NO:656) and the nucleic acid sequence HPP300B (213B) (SEQ ID NO:213) which encodes HPP300;

Figure 301A contains the amino acid sequence of *H. pylori* polypeptide HPP301 (301A);

Figures 302A and 214B contain the amino acid sequence of *H. pylori* polypeptide HPP302 (302A) (SEQ ID NO:657) and the nucleic acid sequence HPP302B (214B) (SEQ ID NO:214) which encodes HPP302;

Figures 303A and 215B contain the amino acid sequence of *H. pylori* polypeptide HPP303 (303A) (SEQ ID NO:658) and the nucleic acid sequence HPP303B (215B) (SEQ ID NO:215) which encodes HPP303;

Figures 304A and 216B contain the amino acid sequence of *H. pylori* polypeptide HPP304 (304A) (SEQ ID NO:659) and the nucleic acid sequence HPP304B (216B) (SEQ ID NO:216) which encodes HPP304;

Figures 305A and 217B contain the amino acid sequence of *H. pylori* polypeptide HPP305 (305A) (SEQ ID NO:660) and the nucleic acid sequence HPP305B (217B) (SEQ ID NO:217) which encodes HPP305;

Figures 306A and 218B contain the amino acid sequence of *H. pylori* polypeptide HPP306 (306A) (SEQ ID NO:661) and the nucleic acid sequence HPP306B (218B) (SEQ ID NO:218) which encodes HPP306;

Figure 307A contains the amino acid sequence of *H. pylori* polypeptide HPP307 (307A) (SEQ ID NO:662);

Figures 308A and 219B contain the amino acid sequence of *H. pylori* polypeptide HPP308 (308A) (SEQ ID NO:663) and the nucleic acid sequence HPP308B (219B) (SEQ ID NO:219) which encodes HPP308;

Figures 309A and 220B contain the amino acid sequence of *H. pylori* polypeptide HPP309 (309A) (SEQ ID NO:664) and the nucleic acid sequence HPP309B (220B) (SEQ ID NO:220) which encodes HPP309;

Figures 310A and 221B contain the amino acid sequence of *H. pylori* polypeptide HPP310 (310A) (SEQ ID NO:665) and the nucleic acid sequence HPP310B (221B) (SEQ ID NO:221) which encodes HPP310;

Figures 311A and 222B contain the amino acid sequence of *H. pylori* polypeptide HPP311 (311A) (SEQ ID NO:666) and the nucleic acid sequence HPP311B (222B) (SEQ ID NO:222) which encodes HPP311;

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Figures 312A and 223B contain the amino acid sequence of *H. pylori* polypeptide HPP312 (312A) (SEQ ID NO:667) and the nucleic acid sequence HPP312B (223B) (SEQ ID NO:223) which encodes HPP312;

Figures 313A and 224B contain the amino acid sequence of *H. pylori* polypeptide HPP313 (313A) (SEQ ID NO:668) and the nucleic acid sequence HPP313B (224B) (SEQ ID NO:224) which encodes HPP313;

Figures 314A and 225B contain the amino acid sequence of *H. pylori* polypeptide HPP314 (314A) (SEQ ID NO:669) and the nucleic acid sequence HPP314B (225B) (SEQ ID NO:225) which encodes HPP314;

Figures 315A and 226B contain the amino acid sequence of *H. pylori* polypeptide HPP315 (315A) (SEQ ID NO:670) and the nucleic acid sequence HPP315B (226B) (SEQ ID NO:226) which encodes HPP315;

Figure 316A contains the amino acid sequence of *H. pylori* polypeptide HPP316 (316A) (SEQ ID NO:671);

Figure 317A contains the amino acid sequence of *H. pylori* polypeptide HPP317 (317A) (SEQ ID NO:672);

Figures 318A and 227B contain the amino acid sequence of *H. pylori* polypeptide HPP318 (318A) (SEQ ID NO:673) and the nucleic acid sequence HPP318B (227B) (SEQ ID NO:227) which encodes HPP318;

Figures 319A and 228B contain the amino acid sequence of *H. pylori* polypeptide HPP319 (319A) (SEQ ID NO:674) and the nucleic acid sequence HPP319B (228B) (SEQ ID NO:228) which encodes HPP319;

Figure 320A contains the amino acid sequence of *H. pylori* polypeptide HPP320 (320A) (SEQ ID NO:675);

Figures 321A and 229B contain the amino acid sequence of *H. pylori* polypeptide HPP321 (321A) (SEQ ID NO:676) and the nucleic acid sequence HPP321B (229B) (SEQ ID NO:229) which encodes HPP321;

Figure 322A contains the amino acid sequence of *H. pylori* polypeptide HPP322 (322A) (SEQ ID NO:677);

Figures 323A and 230B contain the amino acid sequence of *H. pylori* polypeptide HPP323 (323A) (SEQ ID NO:678) and the nucleic acid sequence HPP323B (230B) (SEQ ID NO:230) which encodes HPP323;

Figures 324A and 231B contain the amino acid sequence of *H. pylori* polypeptide HPP324 (324A) (SEQ ID NO:679) and the nucleic acid sequence HPP324B (231B) (SEQ ID NO:231) which encodes HPP324;

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Figures 325A and 232B contain the amino acid sequence of *H. pylori* polypeptide HPP325 (325A) (SEQ ID NO:680) and the nucleic acid sequence HPP325B (232B) (SEQ ID NO:232) which encodes HPP325;

Figures 326A and 233B contain the amino acid sequence of *H. pylori* polypeptide HPP326 (326A) (SEQ ID NO:681) and the nucleic acid sequence HPP326B (233B) (SEQ ID NO:233) which encodes HPP326;

Figures 327A and 234B contain the amino acid sequence of *H. pylori* polypeptide HPP327 (327A) (SEQ ID NO:682) and the nucleic acid sequence HPP327B (234B) (SEQ ID NO:234) which encodes HPP327;

Figure 328A contains the amino acid sequence of *H. pylori* polypeptide HPP328 (328A);

Figure 329A contains the amino acid sequence of *H. pylori* polypeptide HPP329 (329A);

Figures 330A and 235B contain the amino acid sequence of *H. pylori* polypeptide HPP330 (330A) (SEQ ID NO:683) and the nucleic acid sequence HPP330B (235B) (SEQ ID NO:235) which encodes HPP330;

Figure 331A contains the amino acid sequence of *H. pylori* polypeptide HPP331 (331A) (SEQ ID NO:684);

Figure 332A contains the amino acid sequence of *H. pylori* polypeptide HPP332 (332A) (SEQ ID NO:685);

Figure 333A contains the amino acid sequence of *H. pylori* polypeptide HPP333 (333A) (SEQ ID NO:686);

Figure 334A contains the amino acid sequence of *H. pylori* polypeptide HPP334 (334A);

Figures 335A and 236B contain the amino acid sequence of *H. pylori* polypeptide HPP335 (335A) (SEQ ID NO:687) and the nucleic acid sequence HPP335B (236B) (SEQ ID NO:236) which encodes HPP335;

Figures 336A and 237B contain the amino acid sequence of *H. pylori* polypeptide HPP336 (336A) (SEQ ID NO:688) and the nucleic acid sequence HPP336B (237B) (SEQ ID NO:237) which encodes HPP336;

Figures 337A and 238B contain the amino acid sequence of *H. pylori* polypeptide HPP337 (337A) (SEQ ID NO:689) and the nucleic acid sequence HPP337B (238B) (SEQ ID NO:238) which encodes HPP337;

Figures 338A and 239B contain the amino acid sequence of *H. pylori* polypeptide HPP338 (338A) (SEQ ID NO:690) and the nucleic acid sequence HPP338B (239B) (SEQ ID NO:239) which encodes HPP338;

Acc.

Figure 339A contains the amino acid sequence of *H. pylori* polypeptide HPP339 (339A);

Figure 340A contains the amino acid sequence of *H. pylori* polypeptide HPP340 (340A);

Figures 341A and 240B contain the amino acid sequence of *H. pylori* polypeptide HPP341 (341A) (SEQ ID NO:691) and the nucleic acid sequence HPP341B (240B) (SEQ ID NO:240) which encodes HPP341;

Figures 342A and 241B contain the amino acid sequence of *H. pylori* polypeptide HPP342 (342A) (SEQ ID NO:692) and the nucleic acid sequence HPP342B (241B) (SEQ ID NO:241) which encodes HPP342;

Figure 343A contains the amino acid sequence of *H. pylori* polypeptide HPP343 (343A) (SEQ ID NO:693);

Figure 344A contains the amino acid sequence of *H. pylori* polypeptide HPP344 (344A);

Figures 345A and 242B contain the amino acid sequence of *H. pylori* polypeptide HPP345 (345A) (SEQ ID NO:694) and the nucleic acid sequence HPP345B (242B) (SEQ ID NO:242) which encodes HPP345;

Figures 346A and 243B contain the amino acid sequence of *H. pylori* polypeptide HPP346 (346A) (SEQ ID NO:695) and the nucleic acid sequence HPP346B (243B) (SEQ ID NO:243) which encodes HPP346;

Figures 347A and 244B contain the amino acid sequence of *H. pylori* polypeptide HPP347 (347A) (SEQ ID NO:696) and the nucleic acid sequence HPP347B (244B) (SEQ ID NO:244) which encodes HPP347;

Figures 348A contains the amino acid sequence of *H. pylori* polypeptide HPP348 (348A);

Figures 349A and 245B contain the amino acid sequence of *H. pylori* polypeptide HPP349 (349A) (SEQ ID NO:697) and the nucleic acid sequence HPP349B (245B) (SEQ ID NO:245) which encodes HPP349;

Figures 350A and 246B contain the amino acid sequence of *H. pylori* polypeptide HPP350 (350A) (SEQ ID NO:698) and the nucleic acid sequence HPP350B (246B) (SEQ ID NO:246) which encodes HPP350;

Figure 351A contains the amino acid sequence of *H. pylori* polypeptide HPP351 (351A);

Figures 352A and 247B contain the amino acid sequence of *H. pylori* polypeptide HPP352 (352A) (SEQ ID NO:699) and the nucleic acid sequence HPP352B (247B) (SEQ ID NO:247) which encodes HPP352;

Accord.

Figures 353A and 248B contain the amino acid sequence of *H. pylori* polypeptide HPP353 (353A) (SEQ ID NO:700) and the nucleic acid sequence HPP353 (248B) (SEQ ID NO:248) which encodes HPP353;

Figures 354A and 249B contain the amino acid sequence of *H. pylori* polypeptide HPP354 (354A) (SEQ ID NO:701) and the nucleic acid sequence HPP354B (249B) (SEQ ID NO:249) which encodes HPP354;

Figures 355A and 250B contain the amino acid sequence of *H. pylori* polypeptide HPP355 (355A) (SEQ ID NO:702) and the nucleic acid sequence HPP355B (250B) (SEQ ID NO:250) which encodes HPP355;

Figure 356A contains the amino acid sequence of *H. pylori* polypeptide HPP356 (356A) (SEQ ID NO:703);

Figure 357A contains the amino acid sequence of *H. pylori* polypeptide HPP357 (357A) (SEQ ID NO:704);

Figure 358A contains the amino acid sequence of *H. pylori* polypeptide HPP358 (358A);

Figures 359A and 251B contain the amino acid sequence of *H. pylori* polypeptide HPP359 (359A) (SEQ ID NO:705) and the nucleic acid sequence HPP359B (251B) (SEQ ID NO:251) which encodes HPP359;

Figures 360A and 252B contain the amino acid sequence of *H. pylori* polypeptide HPP360 (360A) (SEQ ID NO:706) and the nucleic acid sequence HPP360B (252B) (SEQ ID NO:252) which encodes HPP360;

Figures 361A and 253B contain the amino acid sequence of *H. pylori* polypeptide HPP361 (361A) (SEQ ID NO:707) and the nucleic acid sequence HPP361B (253B) (SEQ ID NO:253) which encodes HPP361;

Figures 362A and 254B contain the amino acid sequence of *H. pylori* polypeptide HPP362 (362A) (SEQ ID NO:708) and the nucleic acid sequence HPP362B (254B) (SEQ ID NO:254) which encodes HPP362;

Figure 363A contains the amino acid sequence of *H. pylori* polypeptide HPP363 (363A) (SEQ ID NO:709);

Figure 364A contains the amino acid sequence of *H. pylori* polypeptide HPP364 (364A) (SEQ ID NO:710);

Figure 365A contains the amino acid sequence of *H. pylori* polypeptide HPP365 (365A);

Figure 366A contains the amino acid sequence of *H. pylori* polypeptide HPP366 (366A) (SEQ ID NO:711);

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Figures 367A and 255B contain the amino acid sequence of *H. pylori* polypeptide HPP367 (367A) (SEQ ID NO:712) and the nucleic acid sequence HPP367B (255B) (SEQ ID NO:255) which encodes HPP367;

Figures 368A and 256B contain the amino acid sequence of *H. pylori* polypeptide HPP368 (368A) (SEQ ID NO:713) and the nucleic acid sequence HPP368B (256B) (SEQ ID NO:256) which encodes HPP368;

Figures 369A and 257B contain the amino acid sequence of *H. pylori* polypeptide HPP369 (369A) (SEQ ID NO:714) and the nucleic acid sequence HPP369B (257B) (SEQ ID NO:257) which encodes HPP369;

Figures 370A contains the amino acid sequence of *H. pylori* polypeptide HPP370 (370A);

Figure 371A contains the amino acid sequence of *H. pylori* polypeptide HPP371 (371A) (SEQ ID NO:715);

Figures 372A and 258B contain the amino acid sequence of *H. pylori* polypeptide HPP372 (372A) (SEQ ID NO:716) and the nucleic acid sequence HPP372B (258B) (SEQ ID NO:258) which encodes HPP372;

Figures 373A and 259B contain the amino acid sequence of *H. pylori* polypeptide HPP373 (373A) (SEQ ID NO:717) and the nucleic acid sequence HPP373B (259B) (SEQ ID NO:259) which encodes HPP373;

Figure 374A contains the amino acid sequence of *H. pylori* polypeptide HPP374 (374A);

Figures 375A and 260B contain the amino acid sequence of *H. pylori* polypeptide HPP375 (375A) (SEQ ID NO:718) and the nucleic acid sequence HPP375B (260B) (SEQ ID NO:260) which encodes HPP375;

Figures 376A and 261B contain the amino acid sequence of *H. pylori* polypeptide HPP376 (376A) (SEQ ID NO:719) and the nucleic acid sequence HPP376B (261B) (SEQ ID NO:261) which encodes HPP376;

Figures 377A and 262B contain the amino acid sequence of *H. pylori* polypeptide HPP377 (377A) (SEQ ID NO:720) and the nucleic acid sequence HPP377B (262B) (SEQ ID NO:262) which encodes HPP377;

Figures 378A and 263B contain the amino acid sequence of *H. pylori* polypeptide HPP378 (378A) (SEQ ID NO:721) and the nucleic acid sequence HPP378B (263B) (SEQ ID NO:263) which encodes HPP378;

Figures 379A and 264B contain the amino acid sequence of *H. pylori* polypeptide HPP379 (379A) (SEQ ID NO:722) and the nucleic acid sequence HPP379B (264B) (SEQ ID NO:264) which encodes HPP379;

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Figure 380A contains the amino acid sequence of *H. pylori* polypeptide HPP380 (380A) (SEQ ID NO:723);

Figure 381A contains the amino acid sequence of *H. pylori* polypeptide HPP381 (381A) (SEQ ID NO:724);

Figures 382A and 265B contain the amino acid sequence of *H. pylori* polypeptide HPP382 (382A) (SEQ ID NO:725) and the nucleic acid sequence HPP382B (265B) (SEQ ID NO:265) which encodes HPP382;

Figures 383A and 266B contain the amino acid sequence of *H. pylori* polypeptide HPP383 (383A) (SEQ ID NO:726) and the nucleic acid sequence HPP383B (266B) (SEQ ID NO:266) which encodes HPP383;

Figures 384A and 267B contain the amino acid sequence of *H. pylori* polypeptide HPP384 (384A) (SEQ ID NO:727) and the nucleic acid sequence HPP383B (267B) (SEQ ID NO:267) which encodes HPP384;

Figures 385A and 268B contain the amino acid sequence of *H. pylori* polypeptide HPP385 (385A) (SEQ ID NO:728) and the nucleic acid sequence HPP385B (268B) (SEQ ID NO:268) which encodes HPP385;

Figures 386A and 269B contain the amino acid sequence of *H. pylori* polypeptide HPP386 (386A) (SEQ ID NO:729) and the nucleic acid sequence HPP386B (269B) (SEQ ID NO:269) which encodes HPP386;

Figures 387A and 270B contain the amino acid sequence of *H. pylori* polypeptide HPP387 (387A) (SEQ ID NO:730) and the nucleic acid sequence HPP387B (270B) (SEQ ID NO:270) which encodes HPP387;

Figure 388A contains the amino acid sequence of *H. pylori* polypeptide HPP388 (388A) (SEQ ID NO:731);

Figures 389A and 271B contain the amino acid sequence of *H. pylori* polypeptide HPP389 (389A) (SEQ ID NO:732) and the nucleic acid sequence HPP389B (271B) (SEQ ID NO:271) which encodes HPP389;

Figures 390A and 272B contain the amino acid sequence of *H. pylori* polypeptide HPP390 (390A) (SEQ ID NO:733) and the nucleic acid sequence HPP390B (272B) (SEQ ID NO:272) which encodes HPP390;

Figure 391A contains the amino acid sequence of *H. pylori* polypeptide HPP391 (391A) (SEQ ID NO:734);

Figures 392A contains the amino acid sequence of *H. pylori* polypeptide HPP392 (392A);

Figures 393A and 273B contain the amino acid sequence of *H. pylori* polypeptide HPP393 (393A) (SEQ ID NO:735) and the nucleic acid sequence HPP393B (273B) (SEQ ID NO:273) which encodes HPP393;

Figures 394A and 274B contain the amino acid sequence of *H. pylori* polypeptide HPP394 (394A) (SEQ ID NO:736) and the nucleic acid sequence HPP394B (274B) (SEQ ID NO:274) which encodes HPP394;

Figures 395A and 275B contain the amino acid sequence of *H. pylori* polypeptide HPP395 (395A) (SEQ ID NO:737) and the nucleic acid sequence HPP395B (275B) (SEQ ID NO:275) which encodes HPP395;

Figure 396A contains the amino acid sequence of *H. pylori* polypeptide HPP396 (396A);

Figure 397A contains the amino acid sequence of *H. pylori* polypeptide HPP397 (397A);

Figures 398A and 276B contain the amino acid sequence of *H. pylori* polypeptide HPP398 (398A) (SEQ ID NO:738) and the nucleic acid sequence HPP398B (276B) (SEQ ID NO:276) which encodes HPP398;

Figures 399A and 277B contain the amino acid sequence of *H. pylori* polypeptide HPP399 (399A) (SEQ ID NO:739) and the nucleic acid sequence HPP399B (277B) (SEQ ID NO:277) which encodes HPP399;

Figure 400A contains the amino acid sequence of *H. pylori* polypeptide HPP400 (400A);

Figures 401A and 278B contain the amino acid sequence of *H. pylori* polypeptide HPP401 (401A) (SEQ ID NO:740) and the nucleic acid sequence HPP401B (278B) (SEQ ID NO:278) which encodes HPP401;

Figures 402A and 279B contain the amino acid sequence of *H. pylori* polypeptide HPP402 (402A) (SEQ ID NO:741) and the nucleic acid sequence HPP402B (279B) (SEQ ID NO:279) which encodes HPP402;

Figures 403A and 280B contain the amino acid sequence of *H. pylori* polypeptide HPP403 (403A) (SEQ ID NO:742) and the nucleic acid sequence HPP403B (280B) (SEQ ID NO:280) which encodes HPP403;

Figures 404A and 281B contain the amino acid sequence of *H. pylori* polypeptide HPP404 (404A) (SEQ ID NO:743) and the nucleic acid sequence HPP404B (281B) (SEQ ID NO:281) which encodes HPP404;

Figures 405A and 282B contain the amino acid sequence of *H. pylori* polypeptide HPP405 (405A) (SEQ ID NO:744) and the nucleic acid sequence HPP405B (282B) (SEQ ID NO:282) which encodes HPP405;

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Figure 406A contains the amino acid sequence of *H. pylori* polypeptide HPP406 (406A) (SEQ ID NO:745);

Figures 407A and 283B contain the amino acid sequence of *H. pylori* polypeptide HPP407 (407A) (SEQ ID NO:746) and the nucleic acid sequence HPP407B (283B) (SEQ ID NO:283) which encodes HPP407;

Figure 408A contains the amino acid sequence of *H. pylori* polypeptide HPP408 (408A);

Figures 409A and 284B contain the amino acid sequence of *H. pylori* polypeptide HPP409 (409A) (SEQ ID NO:747) and the nucleic acid sequence HPP409B (284B) (SEQ ID NO:284) which encodes HPP409;

Figures 410A and 285B contain the amino acid sequence of *H. pylori* polypeptide HPP410 (410A) (SEQ ID NO:748) and the nucleic acid sequence HPP410B (285B) (SEQ ID NO:285) which encodes HPP410;

Figures 411A and 286B contain the amino acid sequence of *H. pylori* polypeptide HPP411 (411A) (SEQ ID NO:749) and the nucleic acid sequence HPP411B (286B) (SEQ ID NO:286) which encodes HPP411;

Figures 412A and 287B contain the amino acid sequence of *H. pylori* polypeptide HPP412 (412A) (SEQ ID NO:750) and the nucleic acid sequence HPP412B (287B) (SEQ ID NO:287) which encodes HPP412;

Figures 413A and 288B contain the amino acid sequence of *H. pylori* polypeptide HPP413 (413A) (SEQ ID NO:751) and the nucleic acid sequence HPP413B (288B) (SEQ ID NO:288) which encodes HPP413;

Figures 414A and 289B contain the amino acid sequence of *H. pylori* polypeptide HPP414 (414A) (SEQ ID NO:752) and the nucleic acid sequence HPP414B (289B) (SEQ ID NO:289) which encodes HPP414;

Figure 415A contains the amino acid sequence of *H. pylori* polypeptide HPP415 (415A) (SEQ ID NO:753);

Figure 416A contains the amino acid sequence of *H. pylori* polypeptide HPP416 (416A) (SEQ ID NO:754);

Figures 417A and 290B contain the amino acid sequence of *H. pylori* polypeptide HPP417 (417A) (SEQ ID NO:755) and the nucleic acid sequence HPP417B (290B) (SEQ ID NO:290) which encodes HPP417;

Figures 418A and 291B contain the amino acid sequence of *H. pylori* polypeptide HPP418 (418A) (SEQ ID NO:756) and the nucleic acid sequence HPP418B (291B) (SEQ ID NO:291) which encodes HPP418;

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Figures 419A and 292B contain the amino acid sequence of *H. pylori* polypeptide HPP419 (419A) (SEQ ID NO:757) and the nucleic acid sequence HPP419B (292B) (SEQ ID NO:292) which encodes HPP419;

Figure 420A contains the amino acid sequence of *H. pylori* polypeptide HPP420 (420A) (SEQ ID NO:758);

Figures 421A and 293B contain the amino acid sequence of *H. pylori* polypeptide HPP421 (421A) (SEQ ID NO:759) and the nucleic acid sequence HPP421B (293B) (SEQ ID NO:293) which encodes HPP421;

Figure 422A contains the amino acid sequence of *H. pylori* polypeptide HPP422 (422A) (SEQ ID NO:760);

Figures 423A and 294B contain the amino acid sequence of *H. pylori* polypeptide HPP423 (423A) (SEQ ID NO:761) and the nucleic acid sequence HPP423B (294B) (SEQ ID NO:294) which encodes HPP423;

Figures 424A and 295B contain the amino acid sequence of *H. pylori* polypeptide HPP424A (424A) (SEQ ID NO:762) and the nucleic acid sequence HPP424B (295B) (SEQ ID NO:295) which encodes HPP424;

Figures 425A and 296B contain the amino acid sequence of *H. pylori* polypeptide HPP425 (425A) (SEQ ID NO:763) and the nucleic acid sequence HPP425B (296B) (SEQ ID NO:296) which encodes HPP425;

Figure 426A contains the amino acid sequence of *H. pylori* polypeptide HPP426A (426A) (SEQ ID NO:764);

Figure 427A contains the amino acid sequence of *H. pylori* polypeptide HPP427 (427A) (SEQ ID NO:765);

Figure 428A contains the amino acid sequence of *H. pylori* polypeptide HPP428 (428A) (SEQ ID NO:766);

Figures 429A and 297B contain the amino acid sequence of *H. pylori* polypeptide HPP429 (429A) (SEQ ID NO:767) and the nucleic acid sequence HPP429B (297B) (SEQ ID NO:297) which encodes HPP429;

Figures 430A and 298B contain the amino acid sequence of *H. pylori* polypeptide HPP430 (430A) (SEQ ID NO:768) and the nucleic acid sequence HPP430B (298B) (SEQ ID NO:298) which encodes HPP430;

Figures 431A and 299B contain the amino acid sequence of *H. pylori* polypeptide HPP431 (431A) (SEQ ID NO:769) and the nucleic acid sequence HPP431B (299B) (SEQ ID NO:299) which encodes HPP431;

Figure 432A contains the amino acid sequence of *H. pylori* polypeptide HPP432 (432A);

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Figures 433A and 300B contain the amino acid sequence of *H. pylori* polypeptide HPP433 (433A) (SEQ ID NO:770) and the nucleic acid sequence HPP433B (300B) (SEQ ID NO:300) which encodes HPP433;

Figures 434A and 301B contain the amino acid sequence of *H. pylori* polypeptide HPP434 (434A) (SEQ ID NO:771) and the nucleic acid sequence HPP434B (301B) (SEQ ID NO:301) which encodes HPP434;

Figures 435A and 302B contain the amino acid sequence of *H. pylori* polypeptide HPP435 (435A) (SEQ ID NO:772) and the nucleic acid sequence HPP435B (302B) (SEQ ID NO:302) which encodes HPP435;

Figures 436A and 303B contain the amino acid sequence of *H. pylori* polypeptide HPP436 (436A) (SEQ ID NO:773) and the nucleic acid sequence HPP436B (303B) (SEQ ID NO:303) which encodes HPP436;

Figure 437A contains the amino acid sequence of *H. pylori* polypeptide HPP437 (437A) (SEQ ID NO:774);

Figures 438A and 304B contain the amino acid sequence of *H. pylori* polypeptide HPP438 (438A) (SEQ ID NO:775) and the nucleic acid sequence HPP438B (304B) (SEQ ID NO:304) which encodes HPP438;

Figure 439A contains the amino acid sequence of *H. pylori* polypeptide HPP439 (439A) (SEQ ID NO:776);

Figures 440A and 305B contain the amino acid sequence of *H. pylori* polypeptide HPP440 (440A) (SEQ ID NO:777) and the nucleic acid sequence HPP440B (305B) (SEQ ID NO:305) which encodes HPP440;

Figure 441A contains the amino acid sequence of *H. pylori* polypeptide HPP441 (441A) (SEQ ID NO:778);

Figures 442A and 306B contain the amino acid sequence of *H. pylori* polypeptide HPP442 (442A) (SEQ ID NO:779) and the nucleic acid sequence HPP442B (306B) (SEQ ID NO:306) which encodes HPP442;

Figures 443A and 307B contain the amino acid sequence of *H. pylori* polypeptide HPP443 (443A) (SEQ ID NO:780) and the nucleic acid sequence HPP443B (307B) (SEQ ID NO:307) which encodes HPP443;

Figures 444A and 308B contain the amino acid sequence of *H. pylori* polypeptide HPP444 (444A) (SEQ ID NO:781) and the nucleic acid sequence HPP444B (308B) (SEQ ID NO:308) which encodes HPP444;

Figures 445A and 309B contain the amino acid sequence of *H. pylori* polypeptide HPP445 (445A) (SEQ ID NO:782) and the nucleic acid sequence HPP445B (309B) (SEQ ID NO:309) which encodes HPP445;

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Figures 446A and 310B contain the amino acid sequence of *H. pylori* polypeptide HPP446 (446A) (SEQ ID NO:783) and the nucleic acid sequence HPP446B (310B) (SEQ ID NO:310) which encodes HPP446;

Figures 447A and 311B contain the amino acid sequence of *H. pylori* polypeptide HPP447 (447A) (SEQ ID NO:784) and the nucleic acid sequence HPP447B (311B) (SEQ ID NO:311) which encodes HPP447;

Figure 448A contains the amino acid sequence of *H. pylori* polypeptide HPP448 (448A) (SEQ ID NO:785);

Figure 449A contains the amino acid sequence of *H. pylori* polypeptide HPP449 (449A);

Figures 450A and 312B contain the amino acid sequence of *H. pylori* polypeptide HPP450 (450A) (SEQ ID NO:786) and the nucleic acid sequence HPP450B (312B) (SEQ ID NO:312) which encodes HPP450;

Figures 451A and 313B contain the amino acid sequence of *H. pylori* polypeptide HPP451 (451A) (SEQ ID NO:787) and the nucleic acid sequence HPP451B (313B) (SEQ ID NO:313) which encodes HPP451;

Figure 452A contains the amino acid sequence of *H. pylori* polypeptide HPP452 (452A) (SEQ ID NO:788);

Figures 453A and 314B contain the amino acid sequence of *H. pylori* polypeptide HPP453 (453A) (SEQ ID NO:789) and the nucleic acid sequence HPP453B (314B) (SEQ ID NO:314) which encodes HPP453;

Figures 454A and 315B contain the amino acid sequence of *H. pylori* polypeptide HPP454 (454A) (SEQ ID NO:790) and the nucleic acid sequence HPP454B (315B) (SEQ ID NO:315) which encodes HPP454;

Figures 455A and 316B contain the amino acid sequence of *H. pylori* polypeptide HPP455 (455A) (SEQ ID NO:791) and the nucleic acid sequence HPP455B (316B) (SEQ ID NO:316) which encodes HPP455;

Figures 456A and 317B contain the amino acid sequence of *H. pylori* polypeptide HPP456 (456A) (SEQ ID NO:792) and the nucleic acid sequence HPP456B (317B) (SEQ ID NO:317) which encodes HPP456;

Figure 457A contains the amino acid sequence of *H. pylori* polypeptide HPP457 (457A) (SEQ ID NO:793);

Figures 458A and 318B contain the amino acid sequence of *H. pylori* polypeptide HPP458 (458A) (SEQ ID NO:794) and the nucleic acid sequence HPP458B (318B) (SEQ ID NO:318) which encodes HPP458;

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Figure 459A contains the amino acid sequence of *H. pylori* polypeptide HPP459 (459A) (SEQ ID NO:795);

Figures 460A and 319B contain the amino acid sequence of *H. pylori* polypeptide HPP460 (460A) (SEQ ID NO:796) and the nucleic acid sequence HPP460B (319B) (SEQ ID NO:319) which encodes HPP460;

Figure 461A contains the amino acid sequence of *H. pylori* polypeptide HPP461 (461A) (SEQ ID NO:797);

Figures 462A and 320B contain the amino acid sequence of *H. pylori* polypeptide HPP462 (462A) (SEQ ID NO:798) and the nucleic acid sequence HPP462B (320B) (SEQ ID NO:320) which encodes HPP462;

Figures 463A and 321B contain the amino acid sequence of *H. pylori* polypeptide HPP463 (463A) (SEQ ID NO:799) and the nucleic acid sequence HPP463B (321B) (SEQ ID NO:321) which encodes HPP463;

Figures 464A and 322B contain the amino acid sequence of *H. pylori* polypeptide HPP464 (464A) (SEQ ID NO:800) and the nucleic acid sequence HPP464B (322B) (SEQ ID NO:322) which encodes HPP464;

Figures 465A and 323B contain the amino acid sequence of *H. pylori* polypeptide HPP465 (465A) (SEQ ID NO:801) and the nucleic acid sequence HPP465B (323B) (SEQ ID NO:323) which encodes HPP465;

Figure 466A contains the amino acid sequence of *H. pylori* polypeptide HPP466 (466A);

Figures 467A and 324B contain the amino acid sequence of *H. pylori* polypeptide HPP467 (467A) (SEQ ID NO:802) and the nucleic acid sequence HPP467B (324B) (SEQ ID NO:324) which encodes HPP467;

Figures 468A and 325B contain the amino acid sequence of *H. pylori* polypeptide HPP468 (468A) (SEQ ID NO:803) and the nucleic acid sequence HPP468B (325B) (SEQ ID NO:325) which encodes HPP468;

Figures 469A and 326B contain the amino acid sequence of *H. pylori* polypeptide HPP469 (469A) (SEQ ID NO:804) and the nucleic acid sequence HPP469B (326B) (SEQ ID NO:326) which encodes HPP469;

Figures 470A and 327B contain the amino acid sequence of *H. pylori* polypeptide HPP470 (470A) (SEQ ID NO:805) and the nucleic acid sequence HPP470B (327B) (SEQ ID NO:327) which encodes HPP470;

Figure 471A contains the amino acid sequence of *H. pylori* polypeptide HPP471 (471A) (SEQ ID NO:806);

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Figures 472A and 328B contain the amino acid sequence of *H. pylori* polypeptide HPP472 (472A) (SEQ ID NO:807) and the nucleic acid sequence HPP472B (328B) (SEQ ID NO:328) which encodes HPP472;

Figures 473A and 329B contain the amino acid sequence of *H. pylori* polypeptide HPP473 (473A) (SEQ ID NO:808) and the nucleic acid sequence HPP473B (329B) (SEQ ID NO:329) which encodes HPP473;

Figures 474A and 330B contain the amino acid sequence of *H. pylori* polypeptide HPP474 (474A) (SEQ ID NO:809) and the nucleic acid sequence HPP474B (330B) (SEQ ID NO:330) which encodes HPP474;

Figures 475A and 331B contain the amino acid sequence of *H. pylori* polypeptide HPP475 (475A) (SEQ ID NO:810) and the nucleic acid sequence HPP475B (331B) (SEQ ID NO:331) which encodes HPP475;

Figures 476A and 332B contain the amino acid sequence of *H. pylori* polypeptide HPP476 (476A) (SEQ ID NO:811) and the nucleic acid sequence HPP476B (332B) (SEQ ID NO:332) which encodes HPP476;

Figure 477A contains the amino acid sequence of *H. pylori* polypeptide HPP477 (477A) (SEQ ID NO:812);

Figures 478A and 333B contain the amino acid sequence of *H. pylori* polypeptide HPP478 (478A) (SEQ ID NO:813) and the nucleic acid sequence HPP478B (333B) (SEQ ID NO:333) which encodes HPP478;

Figures 479A and 334B contain the amino acid sequence of *H. pylori* polypeptide HPP479 (479A) (SEQ ID NO:814) and the nucleic acid sequence HPP479B (334B) (SEQ ID NO:334) which encodes HPP479;

Figure 480A contains the amino acid sequence of *H. pylori* polypeptide HPP480 (480A);

Figures 481A and 335 contain the amino acid sequence of *H. pylori* polypeptide HPP481 (481A) (SEQ ID NO:815) and the nucleic acid sequence HPP481B (335B) (SEQ ID NO:335) which encodes HPP481;

Figures 482A and 336B contain the amino acid sequence of *H. pylori* polypeptide HPP482 (482A) (SEQ ID NO:816) and the nucleic acid sequence HPP482B (336B) (SEQ ID NO:336) which encodes HPP482;

Figures 483A and 337B contain the amino acid sequence of *H. pylori* polypeptide HPP483 (483A) (SEQ ID NO:817) and the nucleic acid sequence HPP483B (337B) (SEQ ID NO:337) which encodes HPP483;

As cont.

Figures 484A and 338B contain the amino acid sequence of *H. pylori* polypeptide HPP484 (484A) (SEQ ID NO:818) and the nucleic acid sequence HPP484B (338B) (SEQ ID NO:338) which encodes HPP484;

Figures 485A and 339B contain the amino acid sequence of *H. pylori* polypeptide HPP485 (485A) (SEQ ID NO:819) and the nucleic acid sequence HPP485B (339B) (SEQ ID NO:339) which encodes HPP485;

Figure 486A contains the amino acid sequence of *H. pylori* polypeptide HPP486 (486A) (SEQ ID NO:820);

Figures 487A and 340B contain the amino acid sequence of *H. pylori* polypeptide HPP487 (487A) (SEQ ID NO:821) and the nucleic acid sequence HPP487B (340B) (SEQ ID NO:340) which encodes HPP487;

Figures 488A and 341B contain the amino acid sequence of *H. pylori* polypeptide HPP488 (488A) (SEQ ID NO:822) and the nucleic acid sequence HPP488B (341B) (SEQ ID NO:341) which encodes HPP488;

Figure 489A contains the amino acid sequence of *H. pylori* polypeptide HPP489 (489A) (SEQ ID NO:823);

Figures 490A and 342B contain the amino acid sequence of *H. pylori* polypeptide HPP490 (490A) (SEQ ID NO:824) and the nucleic acid sequence HPP490B (342B) (SEQ ID NO:342) which encodes HPP490;

Figures 491A and 343B contain the amino acid sequence of *H. pylori* polypeptide HPP491 (491A) (SEQ ID NO:825) and the nucleic acid sequence HPP491B (343B) (SEQ ID NO:343) which encodes HPP491;

Figures 492A and 344B contain the amino acid sequence of *H. pylori* polypeptide HPP492 (492A) (SEQ ID NO:826) and the nucleic acid sequence HPP492B (344B) (SEQ ID NO:344) which encodes HPP492;

Figure 493A contains the amino acid sequence of *H. pylori* polypeptide HPP493 (493A) (SEQ ID NO:827);

Figures 494A and 345B contain the amino acid sequence of *H. pylori* polypeptide HPP494 (494A) (SEQ ID NO:828) and the nucleic acid sequence HPP494B (345B) (SEQ ID NO:345) which encodes HPP494;

Figures 495A and 346B contain the amino acid sequence of *H. pylori* polypeptide HPP495 (495A) (SEQ ID NO:829) and the nucleic acid sequence HPP495B (346B) (SEQ ID NO:346) which encodes HPP495;

Figures 496A and 347B contain the amino acid sequence of *H. pylori* polypeptide HPP496 (496A) (SEQ ID NO:830) and the nucleic acid sequence HPP496B (347B) (SEQ ID NO:347) which encodes HPP496;

P. Cont.

Figures 497A and 348B contain the amino acid sequence of *H. pylori* polypeptide HPP497 (497A) (SEQ ID NO:831) and the nucleic acid sequence HPP497B (348B) (SEQ ID NO:348) which encodes HPP497;

Figures 498A and 349B contain the amino acid sequence of *H. pylori* polypeptide HPP498 (498A) (SEQ ID NO:832) and the nucleic acid sequence HPP498B (349B) (SEQ ID NO:349) which encodes HPP498;

Figure 499A contains the amino acid sequence of *H. pylori* polypeptide HPP499 (499A) (SEQ ID NO:833);

Figure 500A contains the amino acid sequence of *H. pylori* polypeptide HPP500 (500A) (SEQ ID NO:834);

Figures 501A and 350B contain the amino acid sequence of *H. pylori* polypeptide HPP501 (501A) (SEQ ID NO:835) and the nucleic acid sequence HPP501B (350B) (SEQ ID NO:350) which encodes HPP501;

Figures 502A and 351B contain the amino acid sequence of *H. pylori* polypeptide HPP502 (502A) (SEQ ID NO:836) and the nucleic acid sequence HPP502B (351B) (SEQ ID NO:351) which encodes HPP502;

Figures 503A and 352B contain the amino acid sequence of *H. pylori* polypeptide HPP503 (503A) (SEQ ID NO:837) and the nucleic acid sequence HPP503B (352B) (SEQ ID NO:352) which encodes HPP503;

Figures 504A and 353B contain the amino acid sequence of *H. pylori* polypeptide HPP504 (504A) (SEQ ID NO:838) and the nucleic acid sequence HPP504B (353B) (SEQ ID NO:353) which encodes HPP504;

Figures 505A and 354B contain the amino acid sequence of *H. pylori* polypeptide HPP505 (505A) (SEQ ID NO:839) and the nucleic acid sequence HPP505B (354B) (SEQ ID NO:354) which encodes HPP505;

Figures 506A and 355B contain the amino acid sequence of *H. pylori* polypeptide HPP506 (506A) (SEQ ID NO:840) and the nucleic acid sequence HPP506B (355B) (SEQ ID NO:355) which encodes HPP506;

Figure 507A contains the amino acid sequence of *H. pylori* polypeptide HPP507 (507A);

Figures 508A and 356B contain the amino acid sequence of *H. pylori* polypeptide HPP508 (508A) (SEQ ID NO:841) and the nucleic acid sequence HPP508B (356B) (SEQ ID NO:356) which encodes HPP508;

Figure 509A contains the amino acid sequence of *H. pylori* polypeptide HPP509 (509A) (SEQ ID NO:842);

A Cont.

Figures 510A and 357B contain the amino acid sequence of *H. pylori* polypeptide HPP510 (510A) (SEQ ID NO:843) and the nucleic acid sequence HPP510B (357B) (SEQ ID NO:357) which encodes HPP510;

Figures 511A and 358B contain the amino acid sequence of *H. pylori* polypeptide HPP511 (511A) (SEQ ID NO:844) and the nucleic acid sequence HPP511B (358B) (SEQ ID NO:358) which encodes HPP511;

Figure 512A contains the amino acid sequence of *H. pylori* polypeptide HPP512 (512A);

Figures 513A and 359B contain the amino acid sequence of *H. pylori* polypeptide HPP513 (513A) (SEQ ID NO:845) and the nucleic acid sequence HPP513B (359B) (SEQ ID NO:359) which encodes HPP513;

Figures 514A and 360B contain the amino acid sequence of *H. pylori* polypeptide HPP514 (514A) (SEQ ID NO:846) and the nucleic acid sequence HPP514B (360B) (SEQ ID NO:360) which encodes HPP514;

Figures 515A and 361B contain the amino acid sequence of *H. pylori* polypeptide HPP515 (515A) (SEQ ID NO:847) and the nucleic acid sequence HPP515B (361B) (SEQ ID NO:361) which encodes HPP515;

Figures 516A and 362B contain the amino acid sequence of *H. pylori* polypeptide HPP516 (516A) (SEQ ID NO:848) and the nucleic acid sequence HPP516B (362B) (SEQ ID NO:362) which encodes HPP516;

Figures 517A and 363B contain the amino acid sequence of *H. pylori* polypeptide HPP517 (517A) (SEQ ID NO:849) and the nucleic acid sequence HPP517B (363B) (SEQ ID NO:363) which encodes HPP517;

Figure 518A contains the amino acid sequence of *H. pylori* polypeptide HPP518 (518A);

Figures 519A and 364B contain the amino acid sequence of *H. pylori* polypeptide HPP519 (519A) (SEQ ID NO:850) and the nucleic acid sequence HPP519B (364B) (SEQ ID NO:364) which encodes HPP519;

Figures 520A and 365B contain the amino acid sequence of *H. pylori* polypeptide HPP520 (520A) (SEQ ID NO:851) and the nucleic acid sequence HPP520B (365B) (SEQ ID NO:365) which encodes HPP520;

Figure 521A contains the amino acid sequence of *H. pylori* polypeptide HPP521 (521A) (SEQ ID NO:852);

Figures 522A and 366B contain the amino acid sequence of *H. pylori* polypeptide HPP522 (522A) (SEQ ID NO:853) and the nucleic acid sequence HPP522B (366B) (SEQ ID NO:366) which encodes HPP522;

At cont.

Figure 523A contains the amino acid sequence of *H. pylori* polypeptide HPP523 (523A) (SEQ ID NO:854);

Figure 524A contains the amino acid sequence of *H. pylori* polypeptide HPP524 (524A);

Figures 525A and 367B contain the amino acid sequence of *H. pylori* polypeptide HPP525 (525A) (SEQ ID NO:855) and the nucleic acid sequence HPP525B (367B) (SEQ ID NO:367) which encodes HPP525;

Figure 526A contains the amino acid sequence of *H. pylori* polypeptide HPP526 (526A);

Figures 527A and 368B contain the amino acid sequence of *H. pylori* polypeptide HPP527 (527A) (SEQ ID NO:856) and the nucleic acid sequence HPP527B (368B) (SEQ ID NO:368) which encodes HPP527;

Figures 528A and 369B contain the amino acid sequence of *H. pylori* polypeptide HPP528 (528A) (SEQ ID NO:857) and the nucleic acid sequence HPP528B (369B) (SEQ ID NO:369) which encodes HPP528;

Figure 529A contains the amino acid sequence of *H. pylori* polypeptide HPP529 (529A) (SEQ ID NO:858);

Figure 530A contains the amino acid sequence of *H. pylori* polypeptide HPP530 (530A);

Figure 531A contains the amino acid sequence of *H. pylori* polypeptide HPP531 (531A);

Figures 532A and 370B contain the amino acid sequence of *H. pylori* polypeptide HPP532 (532A) (SEQ ID NO:859) and the nucleic acid sequence HPP532B (370B) (SEQ ID NO:370) which encodes HPP532;

Figures 533A and 371B contain the amino acid sequence of *H. pylori* polypeptide HPP533 (533A) (SEQ ID NO:860) and the nucleic acid sequence HPP533B (371B) (SEQ ID NO:371) which encodes HPP533;

Figures 534A and 372B contain the amino acid sequence of *H. pylori* polypeptide HPP534 (534A) (SEQ ID NO:861) and the nucleic acid sequence HPP534B (372B) (SEQ ID NO:372) which encodes HPP534;

Figures 535A and 373B contain the amino acid sequence of *H. pylori* polypeptide HPP535 (535A) (SEQ ID NO:862) and the nucleic acid sequence HPP535B (373B) (SEQ ID NO:373) which encodes HPP535;

Figure 536A contains the amino acid sequence of *H. pylori* polypeptide HPP536 (536A) (SEQ ID NO:863);

*Handwritten:*  
A cont.

Figure 537A contains the amino acid sequence of *H. pylori* polypeptide HPP537 (537A);

Figure 538A contains the amino acid sequence of *H. pylori* polypeptide HPP538 (538A);

Figure 539A contains the amino acid sequence of *H. pylori* polypeptide HPP539 (539A) (SEQ ID NO:864);

Figure 540A contains the amino acid sequence of *H. pylori* polypeptide HPP540 (540A) (SEQ ID NO:865);

Figures 541A and 374B contain the amino acid sequence of *H. pylori* polypeptide HPP541 (541A) (SEQ ID NO:866) and the nucleic acid sequence HPP541B (374B) (SEQ ID NO:374) which encodes HPP541;

Figure 542A contains the amino acid sequence of *H. pylori* polypeptide HPP542 (542A) (SEQ ID NO:867);

Figures 543A and 375B contain the amino acid sequence of *H. pylori* polypeptide HPP543 (543A) (SEQ ID NO:868) and the nucleic acid sequence HPP543B (375B) (SEQ ID NO:375) which encodes HPP543;

Figures 544A and 376B contain the amino acid sequence of *H. pylori* polypeptide HPP544 (544A) (SEQ ID NO:869) and the nucleic acid sequence HPP544B (376B) (SEQ ID NO:376) which encodes HPP544;

Figures 545A and 377B contain the amino acid sequence of *H. pylori* polypeptide HPP545 (545A) (SEQ ID NO:870) and the nucleic acid sequence HPP545B (377B) (SEQ ID NO:377) which encodes HPP545;

Figure 546A contains the amino acid sequence of *H. pylori* polypeptide HPP546 (546A);

Figures 547A and 378B contain the amino acid sequence of *H. pylori* polypeptide HPP547 (547A) (SEQ ID NO:871) and the nucleic acid sequence HPP547B (378B) (SEQ ID NO:378) which encodes HPP547;

Figure 548A contains the amino acid sequence of *H. pylori* polypeptide HPP548 (548A) (SEQ ID NO:872);

Figures 549A and 379B contain the amino acid sequence of *H. pylori* polypeptide HPP549 (549A) (SEQ ID NO:873) and the nucleic acid sequence HPP549B (379B) (SEQ ID NO:379) which encodes HPP549;

Figures 550A and 380B contain the amino acid sequence of *H. pylori* polypeptide HPP550 (550A) (SEQ ID NO:874) and the nucleic acid sequence HPP550B (380B) (SEQ ID NO:380) which encodes HPP550;

By Cont.

Figures 551A and 381B contain the amino acid sequence of *H. pylori* polypeptide HPP551 (551A) (SEQ ID NO:875) and the nucleic acid sequence HPP551B (381B) (SEQ ID NO:381) which encodes HPP551;

Figures 552A and 382B contain the amino acid sequence of *H. pylori* polypeptide HPP552 (552A) (SEQ ID NO:876) and the nucleic acid sequence HPP552B (382B) (SEQ ID NO:382) which encodes HPP552;

Figure 553A contains the amino acid sequence of *H. pylori* polypeptide HPP553 (553A) (SEQ ID NO:877);

Figure 554A contains the amino acid sequence of *H. pylori* polypeptide HPP554 (554A) (SEQ ID NO:878);

Figures 555A and 383B contain the amino acid sequence of *H. pylori* polypeptide HPP555 (555A) (SEQ ID NO:879) and the nucleic acid sequence HPP555B (383B) (SEQ ID NO:383) which encodes HPP555;

Figure 556A contains the amino acid sequence of *H. pylori* polypeptide HPP556 (556A) (SEQ ID NO:880);

Figure 557A contains the amino acid sequence of *H. pylori* polypeptide HPP557 (557A); and

Figure 558A contains the amino acid sequence of *H. pylori* polypeptide HPP558 (558A) --.

At page 2, line 30, replace "560" with --559-- after "Figure".

At page 3, line 6, replace "in vitro" with --in vitro--.

At page 6, line 24, insert ~~Helicobacter pylori~~ polypeptide after "of"; and replace "HPP1" with (HPP1) (SEQ ID NO:384);

line 25, insert (SEQ ID NO:384) after "HPPT";

line 26, insert (SEQ ID NOs:384-880) after "Figures 1A-558A";

line 27, replace "Figure 559" with Figures 1B - 383B (SEQ ID NOs:1-383) after "in"; and replace "Figure 559 contains" with Figures 1B - 383B (SEQ ID NOs:1-383) contain after the period;

line 28 insert (SEQ ID NOs:384-880) after "Figures 1A-558A" and delete lines 28-32 starting with "The SEQ ID NO's .....nucleic acid

sequence."

Delete page 6, line 33 through page 49, line 27 and insert --

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In another aspect, the invention features a recombinant or substantially pure preparation of an HPP2 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP2 polypeptide (SEQ ID NO:385).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP3 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP3 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP4 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP4 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP5 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP5 polypeptide (SEQ ID NO:386).

A9 In another aspect, the invention features a recombinant or substantially pure preparation of an HPP6 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP6 polypeptide (SEQ ID NO:387).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP7 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP7 polypeptide (SEQ ID NO:388).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP8 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP8 polypeptide (SEQ ID NO:389).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP9 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP9 polypeptide (SEQ ID NO:390).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP10 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP10 polypeptide (SEQ ID NO:391).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP11 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP11 polypeptide (SEQ ID NO:392).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP12 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP12 polypeptide (SEQ ID NO:393).



In another aspect, the invention features a recombinant or substantially pure preparation of an HPP13 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP13 polypeptide (SEQ ID NO:394).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP14 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP14 polypeptide (SEQ ID NO:395).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP15 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP15 polypeptide (SEQ ID NO:396).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP16 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP16 polypeptide (SEQ ID NO:397).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP17 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP17 polypeptide (SEQ ID NO:398).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP18 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP18 polypeptide (SEQ ID NO:399).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP19 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP19 polypeptide (SEQ ID NO:400).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP20 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP20 polypeptide (SEQ ID NO:401).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP21 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP21 polypeptide (SEQ ID NO:402).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP22 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP22 polypeptide (SEQ ID NO:403).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP23 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP23 polypeptide (SEQ ID NO:404).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP24 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP24 polypeptide (SEQ ID NO:405).

A9 cont

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP25 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP25 polypeptide (SEQ ID NO:406).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP26 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP26 polypeptide (SEQ ID NO:407).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP27 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP27 polypeptide (SEQ ID NO:408).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP28 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP28 polypeptide (SEQ ID NO:409).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP29 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP29 polypeptide (SEQ ID NO:410).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP30 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP30 polypeptide (SEQ ID NO:411).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP31 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP31 polypeptide (SEQ ID NO:412).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP32 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP32 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP33 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP33 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP34 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP34 polypeptide (SEQ ID NO:413).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP35 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP35 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP36 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP36 polypeptide (SEQ ID NO:414).

As cont

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP37 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP37 polypeptide (SEQ ID NO:415).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP38 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP38 polypeptide (SEQ ID NO:416).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP39 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP39 polypeptide (SEQ ID NO:417).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP40 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP40 polypeptide (SEQ ID NO:418).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP41 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP41 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP42 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP42 polypeptide (SEQ ID NO:419).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP43 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP43 polypeptide (SEQ ID NO:420).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP44 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP44 polypeptide (SEQ ID NO:421).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP45 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP45 polypeptide (SEQ ID NO:422).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP46 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP46 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP47 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP47 polypeptide (SEQ ID NO:423).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP48 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP48 polypeptide (SEQ ID NO:424).

A9 cont

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP49 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP49 polypeptide (SEQ ID NO:425).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP50 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP50 polypeptide (SEQ ID NO:426).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP51 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP51 polypeptide (SEQ ID NO:427).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP52 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP52 polypeptide (SEQ ID NO:428).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP53 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP53 polypeptide (SEQ ID NO:429).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP54 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP54 polypeptide (SEQ ID NO:430).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP55 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP55 polypeptide (SEQ ID NO:431).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP56 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP56 polypeptide (SEQ ID NO:432).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP57 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP57 polypeptide (SEQ ID NO:433).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP58 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP58 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP59 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP59 polypeptide (SEQ ID NO:434).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP60 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP60 polypeptide (SEQ ID NO:435).

Fig 9 cont

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP61 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP61 polypeptide (SEQ ID NO:436).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP62 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP62 polypeptide (SEQ ID NO:437).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP63 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP63 polypeptide (SEQ ID NO:438).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP64 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP64 polypeptide (SEQ ID NO:439).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP65 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP65 polypeptide (SEQ ID NO:440).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP66 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP66 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP67 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP67 polypeptide (SEQ ID NO:441).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP68 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP68 polypeptide (SEQ ID NO:442).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP69 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP69 polypeptide (SEQ ID NO:443).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP70 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP70 polypeptide (SEQ ID NO:444).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP71 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP71 polypeptide (SEQ ID NO:445).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP72 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP72 polypeptide (SEQ ID NO:446).

As Cont.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP73 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP73 polypeptide (SEQ ID NO:447).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP74 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP74 polypeptide (SEQ ID NO:448).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP75 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP75 polypeptide (SEQ ID NO:449).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP76 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP76 polypeptide (SEQ ID NO:450).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP77 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP77 polypeptide (SEQ ID NO:451).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP78 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP78 polypeptide (SEQ ID NO:452).

*Ag cont.*  
In another aspect, the invention features a recombinant or substantially pure preparation of an HPP79 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP79 polypeptide (SEQ ID NO:453).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP80 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP80 polypeptide (SEQ ID NO:454).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP81 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP81 polypeptide (SEQ ID NO:455).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP82 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP82 polypeptide (SEQ ID NO:456).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP83 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP83 polypeptide (SEQ ID NO:457).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP84 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP84 polypeptide (SEQ ID NO:458).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP85 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP85 polypeptide (SEQ ID NO:459).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP86 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP86 polypeptide (SEQ ID NO:460).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP87 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP87 polypeptide (SEQ ID NO:461).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP88 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP88 polypeptide (SEQ ID NO:462).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP89 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP89 polypeptide (SEQ ID NO:463).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP90 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP90 polypeptide (SEQ ID NO:464).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP91 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP91 polypeptide (SEQ ID NO:465).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP92 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP92 polypeptide (SEQ ID NO:466).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP93 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP93 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP94 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP94 polypeptide (SEQ ID NO:467).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP95 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP95 polypeptide (SEQ ID NO:468).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP96 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP96 polypeptide (SEQ ID NO:469).

Ag Cont.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP97 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP97 polypeptide (SEQ ID NO:470).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP98 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP98 polypeptide (SEQ ID NO:471).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP99 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP99 polypeptide (SEQ ID NO:472).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP100 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP100 polypeptide (SEQ ID NO:473).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP101 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP101 polypeptide (SEQ ID NO:474).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP102 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP102 polypeptide (SEQ ID NO:475).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP103 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP103 polypeptide (SEQ ID NO:476).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP104 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP104 polypeptide (SEQ ID NO:477).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP105 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP105 polypeptide (SEQ ID NO:478).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP106 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP106 polypeptide (SEQ ID NO:479).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP107 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP107 polypeptide (SEQ ID NO:480).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP108 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP108 polypeptide (SEQ ID NO:481).

Ag cont.



In another aspect, the invention features a recombinant or substantially pure preparation of an HPP109 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP109 polypeptide (SEQ ID NO:482).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP110 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP110 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP111 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP111 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP112 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP112 polypeptide (SEQ ID NO:483).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP113 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP113 polypeptide (SEQ ID NO:484).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP114 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP114 polypeptide (SEQ ID NO:485).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP115 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP115 polypeptide (SEQ ID NO:486).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP116 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP116 polypeptide (SEQ ID NO:487).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP117 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP117 polypeptide (SEQ ID NO:488).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP118 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP118 polypeptide (SEQ ID NO:489).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP119 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP119 polypeptide (SEQ ID NO:490).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP120 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP120 polypeptide (SEQ ID NO:491).

Fig 10

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP121 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP121 polypeptide (SEQ ID NO:492).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP122 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP122 polypeptide (SEQ ID NO:493).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP123 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP123 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP124 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP124 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP125 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP125 polypeptide (SEQ ID NO:494).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP126 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP126 polypeptide (SEQ ID NO:495).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP127 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP127 polypeptide (SEQ ID NO:496).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP128 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP128 polypeptide (SEQ ID NO:497).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP129 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP129 polypeptide (SEQ ID NO:498).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP130 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP130 polypeptide (SEQ ID NO:499).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP131 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP131 polypeptide (SEQ ID NO:500).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP132 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP132 polypeptide (SEQ ID NO:501).

Ag Cont.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP133 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP133 polypeptide (SEQ ID NO:502).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP134 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP134 polypeptide (SEQ ID NO:503).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP135 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP135 polypeptide (SEQ ID NO:504).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP136 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP136 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP137 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP137 polypeptide (SEQ ID NO:505).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP138 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP138 polypeptide (SEQ ID NO:506).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP139 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP139 polypeptide (SEQ ID NO:507).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP140 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP140 polypeptide (SEQ ID NO:508).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP141 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP141 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP142 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP142 polypeptide (SEQ ID NO:509).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP143 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP143 polypeptide (SEQ ID NO:510).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP144 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP144 polypeptide (SEQ ID NO:511).

Ag Cont.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP145 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP145 polypeptide (SEQ ID NO:512).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP146 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP146 polypeptide (SEQ ID NO:513).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP147 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP147 polypeptide (SEQ ID NO:514).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP148 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP148 polypeptide (SEQ ID NO:515).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP149 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP149 polypeptide (SEQ ID NO:516).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP150 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP150 polypeptide (SEQ ID NO:517).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP151 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP151 polypeptide (SEQ ID NO:518).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP152 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP152 polypeptide (SEQ ID NO:519).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP153 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP153 polypeptide (SEQ ID NO:520).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP154 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP154 polypeptide (SEQ ID NO:521).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP155 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP155 polypeptide (SEQ ID NO:522).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP156 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP156 polypeptide.

Am cont.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP157 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP157 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP158 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP158 polypeptide (SEQ ID NO:523).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP159 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP159 polypeptide (SEQ ID NO:524).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP160 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP160 polypeptide (SEQ ID NO:525).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP161 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP161 polypeptide (SEQ ID NO:526).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP162 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP162 polypeptide (SEQ ID NO:527).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP163 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP163 polypeptide (SEQ ID NO:528).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP164 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP164 polypeptide (SEQ ID NO:529).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP165 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP165 polypeptide (SEQ ID NO:530).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP166 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP166 polypeptide (SEQ ID NO:531).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP167 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP167 polypeptide (SEQ ID NO:532).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP168 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP168 polypeptide.

Ag cont

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP169 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP169 polypeptide (SEQ ID NO:533).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP170 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP170 polypeptide (SEQ ID NO:534).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP171 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP171 polypeptide (SEQ ID NO:535).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP172 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP172 polypeptide (SEQ ID NO:536).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP173 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP173 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP174 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP174 polypeptide (SEQ ID NO:537).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP175 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP175 polypeptide (SEQ ID NO:538).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP176 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP176 polypeptide (SEQ ID NO:539).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP177 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP177 polypeptide (SEQ ID NO:540).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP178 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP178 polypeptide (SEQ ID NO:541).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP179 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP179 polypeptide (SEQ ID NO:542).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP180 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP180 polypeptide (SEQ ID NO:543).

As cont

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP181 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP181 polypeptide (SEQ ID NO:544).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP182 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP182 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP183 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP183 polypeptide (SEQ ID NO:545).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP184 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP184 polypeptide (SEQ ID NO:546).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP185 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP185 polypeptide (SEQ ID NO:547).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP186 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP186 polypeptide (SEQ ID NO:548).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP187 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP187 polypeptide (SEQ ID NO:549).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP188 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP188 polypeptide (SEQ ID NO:550).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP189 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP189 polypeptide (SEQ ID NO:551).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP190 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP190 polypeptide (SEQ ID NO:552).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP191 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP191 polypeptide (SEQ ID NO:553).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP192 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP192 polypeptide (SEQ ID NO:554).

Ag Cont.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP193 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP193 polypeptide (SEQ ID NO:555).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP194 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP194 polypeptide (SEQ ID NO:556).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP195 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP195 polypeptide (SEQ ID NO:557).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP196 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP196 polypeptide (SEQ ID NO:558).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP197 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP197 polypeptide (SEQ ID NO:559).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP198 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP198 polypeptide (SEQ ID NO:560).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP199 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP199 polypeptide (SEQ ID NO:561).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP200 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP200 polypeptide (SEQ ID NO:562).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP201 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP201 polypeptide (SEQ ID NO:563).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP202 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP202 polypeptide (SEQ ID NO:564).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP203 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP203 polypeptide (SEQ ID NO:565).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP204 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP204 polypeptide.

Ag cont.



In another aspect, the invention features a recombinant or substantially pure preparation of an HPP205 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP205 polypeptide (SEQ ID NO:566).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP206 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP206 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP207 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP207 polypeptide (SEQ ID NO:567).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP208 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP208 polypeptide (SEQ ID NO:568).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP209 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP209 polypeptide (SEQ ID NO:569).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP210 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP210 polypeptide (SEQ ID NO:570).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP211 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP211 polypeptide (SEQ ID NO:571).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP212 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP212 polypeptide (SEQ ID NO:572).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP213 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP213 polypeptide (SEQ ID NO:573).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP214 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP214 polypeptide (SEQ ID NO:574).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP215 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP215 polypeptide (SEQ ID NO:575).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP216 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP216 polypeptide (SEQ ID NO:576).

Ag cont.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP217 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP217 polypeptide (SEQ ID NO:577).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP218 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP218 polypeptide (SEQ ID NO:578).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP219 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP219 polypeptide (SEQ ID NO:579).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP220 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP220 polypeptide (SEQ ID NO:580).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP221 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP221 polypeptide (SEQ ID NO:581).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP222 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP222 polypeptide (SEQ ID NO:582).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP223 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP223 polypeptide (SEQ ID NO:583).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP224 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP224 polypeptide (SEQ ID NO:584).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP225 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP225 polypeptide (SEQ ID NO:585).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP226 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP226 polypeptide (SEQ ID NO:586).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP227 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP227 polypeptide (SEQ ID NO:587).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP228 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP228 polypeptide (SEQ ID NO:588).

Ag cont.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP229 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP229 polypeptide (SEQ ID NO:589).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP230 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP230 polypeptide (SEQ ID NO:590).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP231 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP231 polypeptide (SEQ ID NO:591).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP232 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP232 polypeptide (SEQ ID NO:592).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP233 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP233 polypeptide (SEQ ID NO:593).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP234 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP234 polypeptide (SEQ ID NO:594).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP235 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP235 polypeptide (SEQ ID NO:595).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP236 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP236 polypeptide (SEQ ID NO:596).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP237 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP237 polypeptide (SEQ ID NO:597).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP238 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP238 polypeptide (SEQ ID NO:598).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP239 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP239 polypeptide (SEQ ID NO:599).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP240 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP240 polypeptide (SEQ ID NO:600).

Ag cont.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP241 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP241 polypeptide (SEQ ID NO:601).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP242 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP242 polypeptide (SEQ ID NO:602).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP243 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP243 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP244 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP244 polypeptide (SEQ ID NO:603).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP245 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP245 polypeptide (SEQ ID NO:604).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP246 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP246 polypeptide (SEQ ID NO:605).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP247 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP247 polypeptide (SEQ ID NO:606).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP248 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP248 polypeptide (SEQ ID NO:607).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP249 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP249 polypeptide (SEQ ID NO:608).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP250 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP250 polypeptide (SEQ ID NO:609).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP251 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP251 polypeptide (SEQ ID NO:610).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP252 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP252 polypeptide (SEQ ID NO:611).

Ag Cont.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP253 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP253 polypeptide (SEQ ID NO:612).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP254 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP254 polypeptide (SEQ ID NO:613).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP255 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP255 polypeptide (SEQ ID NO:614).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP256 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP256 polypeptide (SEQ ID NO:615).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP257 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP257 polypeptide (SEQ ID NO:616).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP258 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP258 polypeptide (SEQ ID NO:617).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP259 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP259 polypeptide (SEQ ID NO:618).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP260 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP260 polypeptide (SEQ ID NO:619).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP261 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP261 polypeptide (SEQ ID NO:620).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP262 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP262 polypeptide (SEQ ID NO:621).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP263 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP263 polypeptide (SEQ ID NO:622).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP264 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP264 polypeptide (SEQ ID NO:623).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP265 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP265 polypeptide (SEQ ID NO:624).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP266 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP266 polypeptide (SEQ ID NO:625).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP267 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP267 polypeptide (SEQ ID NO:626).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP268 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP268 polypeptide (SEQ ID NO:627).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP269 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP269 polypeptide (SEQ ID NO:628).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP270 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP270 polypeptide (SEQ ID NO:629).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP271 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP271 polypeptide (SEQ ID NO:630).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP272 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP272 polypeptide (SEQ ID NO:631).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP273 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP273 polypeptide (SEQ ID NO:632).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP274 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP274 polypeptide (SEQ ID NO:633).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP275 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP275 polypeptide (SEQ ID NO:634).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP276 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP276 polypeptide (SEQ ID NO:635).

Ag cont.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP277 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP277 polypeptide (SEQ ID NO:636).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP278 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP278 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP279 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP279 polypeptide (SEQ ID NO:637).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP280 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP280 polypeptide (SEQ ID NO:638).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP281 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP281 polypeptide (SEQ ID NO:639).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP282 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP282 polypeptide (SEQ ID NO:640).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP283 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP283 polypeptide (SEQ ID NO:641).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP284 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP284 polypeptide (SEQ ID NO:642).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP285 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP285 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP286 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP286 polypeptide (SEQ ID NO:643).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP287 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP287 polypeptide (SEQ ID NO:644).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP288 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP288 polypeptide (SEQ ID NO:645).

Ag cont.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP289 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP289 polypeptide (SEQ ID NO:646).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP290 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP290 polypeptide (SEQ ID NO:647).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP291 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP291 polypeptide (SEQ ID NO:648).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP292 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP292 polypeptide (SEQ ID NO:649).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP293 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP293 polypeptide (SEQ ID NO:650).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP294 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP294 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP295 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP295 polypeptide (SEQ ID NO:651).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP296 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP296 polypeptide (SEQ ID NO:652).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP297 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP297 polypeptide (SEQ ID NO:653).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP298 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP298 polypeptide (SEQ ID NO:654).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP299 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP299 polypeptide (SEQ ID NO:655).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP300 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP300 polypeptide (SEQ ID NO:656).

Ag Cont.



In another aspect, the invention features a recombinant or substantially pure preparation of an HPP301 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP301 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP302 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP302 polypeptide (SEQ ID NO:657).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP303 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP303 polypeptide (SEQ ID NO:658).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP304 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP304 polypeptide (SEQ ID NO:659).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP305 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP305 polypeptide (SEQ ID NO:660).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP306 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP306 polypeptide (SEQ ID NO:661).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP307 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP307 polypeptide (SEQ ID NO:662).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP308 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP308 polypeptide (SEQ ID NO:663).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP309 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP309 polypeptide (SEQ ID NO:664).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP310 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP310 polypeptide (SEQ ID NO:665).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP311 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP311 polypeptide (SEQ ID NO:666).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP312 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP312 polypeptide (SEQ ID NO:667).

Ag Cont

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP313 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP313 polypeptide (SEQ ID NO:668).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP314 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP314 polypeptide (SEQ ID NO:669).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP315 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP315 polypeptide (SEQ ID NO:670).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP316 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP316 polypeptide (SEQ ID NO:671).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP317 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP317 polypeptide (SEQ ID NO:672).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP318 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP318 polypeptide (SEQ ID NO:673).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP319 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP319 polypeptide (SEQ ID NO:674).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP320 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP320 polypeptide (SEQ ID NO:675).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP321 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP321 polypeptide (SEQ ID NO:676).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP322 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP322 polypeptide (SEQ ID NO:677).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP323 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP323 polypeptide (SEQ ID NO:678).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP324 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP324 polypeptide (SEQ ID NO:679).

Cont  
A9

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP325 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP325 polypeptide (SEQ ID NO:680).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP326 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP326 polypeptide (SEQ ID NO:681).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP327 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP327 polypeptide (SEQ ID NO:682).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP328 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP328 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP329 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP329 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP330 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP330 polypeptide (SEQ ID NO:683).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP331 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP331 polypeptide (SEQ ID NO:684).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP332 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP332 polypeptide (SEQ ID NO:685).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP333 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP333 polypeptide (SEQ ID NO:686).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP334 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP334 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP335 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP335 polypeptide (SEQ ID NO:687).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP336 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP336 polypeptide (SEQ ID NO:688).

Ag cont

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP337 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP337 polypeptide (SEQ ID NO:689).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP338 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP338 polypeptide (SEQ ID NO:690).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP339 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP339 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP340 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP340 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP341 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP341 polypeptide (SEQ ID NO:691).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP342 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP342 polypeptide (SEQ ID NO:692).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP343 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP343 polypeptide (SEQ ID NO:693).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP344 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP344 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP345 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP345 polypeptide (SEQ ID NO:694).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP346 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP346 polypeptide (SEQ ID NO:695).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP347 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP347 polypeptide (SEQ ID NO:696).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP348 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP348 polypeptide.

Ag cont

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP349 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP349 polypeptide (SEQ ID NO:697).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP350 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP350 polypeptide (SEQ ID NO:698).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP351 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP351 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP352 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP352 polypeptide (SEQ ID NO:699).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP353 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP353 polypeptide (SEQ ID NO:700).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP354 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP354 polypeptide (SEQ ID NO:701).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP355 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP355 polypeptide (SEQ ID NO:702).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP356 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP356 polypeptide (SEQ ID NO:703).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP357 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP357 polypeptide (SEQ ID NO:704).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP358 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP358 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP359 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP359 polypeptide (SEQ ID NO:705).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP360 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP360 polypeptide (SEQ ID NO:706).

Ag Cont.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP361 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP361 polypeptide (SEQ ID NO:707).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP362 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP362 polypeptide (SEQ ID NO:708).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP363 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP363 polypeptide (SEQ ID NO:709).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP364 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP364 polypeptide (SEQ ID NO:710).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP365 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP365 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP366 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP366 polypeptide (SEQ ID NO:711).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP367 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP367 polypeptide (SEQ ID NO:712).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP368 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP368 polypeptide (SEQ ID NO:713).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP369 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP369 polypeptide (SEQ ID NO:714).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP370 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP370 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP371 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP371 polypeptide (SEQ ID NO:715).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP372 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP372 polypeptide (SEQ ID NO:716).

Ag Cont.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP373 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP373 polypeptide (SEQ ID NO:717).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP374 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP374 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP375 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP375 polypeptide (SEQ ID NO:718).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP376 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP376 polypeptide (SEQ ID NO:719).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP377 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP377 polypeptide (SEQ ID NO:720).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP378 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP378 polypeptide (SEQ ID NO:721).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP379 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP379 polypeptide (SEQ ID NO:722).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP380 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP380 polypeptide (SEQ ID NO:723).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP381 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP381 polypeptide (SEQ ID NO:724).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP382 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP382 polypeptide (SEQ ID NO:725).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP383 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP383 polypeptide (SEQ ID NO:726).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP384 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP384 polypeptide (SEQ ID NO:727).

A9 cont.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP385 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP385 polypeptide (SEQ ID NO:728).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP386 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP386 polypeptide (SEQ ID NO:729).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP387 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP387 polypeptide (SEQ ID NO:730).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP388 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP388 polypeptide (SEQ ID NO:731).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP389 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP389 polypeptide (SEQ ID NO:732).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP390 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP390 polypeptide (SEQ ID NO:733).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP391 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP391 polypeptide (SEQ ID NO:734).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP392 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP392 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP393 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP393 polypeptide (SEQ ID NO:735).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP394 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP394 polypeptide (SEQ ID NO:736).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP395 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP395 polypeptide (SEQ ID NO:737).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP396 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP396 polypeptide.

Ag cont.



In another aspect, the invention features a recombinant or substantially pure preparation of an HPP397 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP397 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP398 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP398 polypeptide (SEQ ID NO:738).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP399 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP399 polypeptide (SEQ ID NO:739).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP400 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP400 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP401 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP401 polypeptide (SEQ ID NO:740).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP402 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP402 polypeptide (SEQ ID NO:741).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP403 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP403 polypeptide (SEQ ID NO:742).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP404 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP404 polypeptide (SEQ ID NO:743).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP405 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP405 polypeptide (SEQ ID NO:744).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP406 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP406 polypeptide (SEQ ID NO:745).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP407 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP407 polypeptide (SEQ ID NO:746).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP408 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP408 polypeptide.

Am Cont.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP409 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP409 polypeptide (SEQ ID NO:747).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP410 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP410 polypeptide (SEQ ID NO:748).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP411 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP411 polypeptide (SEQ ID NO:749).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP412 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP412 polypeptide (SEQ ID NO:750).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP413 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP413 polypeptide (SEQ ID NO:751).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP414 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP414 polypeptide (SEQ ID NO:752).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP415 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP415 polypeptide (SEQ ID NO:753).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP416 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP416 polypeptide (SEQ ID NO:754).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP417 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP417 polypeptide (SEQ ID NO:755).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP418 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP418 polypeptide (SEQ ID NO:756).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP419 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP419 polypeptide (SEQ ID NO:757).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP420 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP420 polypeptide (SEQ ID NO:758).

Ag Cont.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP421 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP421 polypeptide (SEQ ID NO:759).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP422 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP422 polypeptide (SEQ ID NO:760).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP423 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP423 polypeptide (SEQ ID NO:761).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP424 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP424 polypeptide (SEQ ID NO:762).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP425 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP425 polypeptide (SEQ ID NO:763).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP426 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP426 polypeptide (SEQ ID NO:764).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP427 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP427 polypeptide (SEQ ID NO:765).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP428 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP428 polypeptide (SEQ ID NO:766).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP429 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP429 polypeptide (SEQ ID NO:767).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP430 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP430 polypeptide (SEQ ID NO:768).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP431 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP431 polypeptide (SEQ ID NO:769).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP432 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP432 polypeptide.

Ag Cont

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP433 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP433 polypeptide (SEQ ID NO:770).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP434 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP434 polypeptide (SEQ ID NO:771).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP435 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP435 polypeptide (SEQ ID NO:772).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP436 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP436 polypeptide (SEQ ID NO:773).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP437 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP437 polypeptide (SEQ ID NO:774).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP438 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP438 polypeptide (SEQ ID NO:775).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP439 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP439 polypeptide (SEQ ID NO:776).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP440 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP440 polypeptide (SEQ ID NO:777).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP441 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP441 polypeptide (SEQ ID NO:778).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP442 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP442 polypeptide (SEQ ID NO:779).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP443 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP443 polypeptide (SEQ ID NO:780).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP444 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP444 polypeptide (SEQ ID NO:781).

Ag cont.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP445 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP445 polypeptide (SEQ ID NO:782).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP446 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP446 polypeptide (SEQ ID NO:783).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP447 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP447 polypeptide (SEQ ID NO:784).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP448 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP448 polypeptide (SEQ ID NO:785).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP449 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP449 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP450 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP450 polypeptide (SEQ ID NO:786).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP451 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP451 polypeptide (SEQ ID NO:787).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP452 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP452 polypeptide (SEQ ID NO:788).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP453 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP453 polypeptide (SEQ ID NO:789).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP454 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP454 polypeptide (SEQ ID NO:790).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP455 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP455 polypeptide (SEQ ID NO:791).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP456 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP456 polypeptide (SEQ ID NO:792).

Ag Cont

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP457 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP457 polypeptide (SEQ ID NO:793).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP458 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP458 polypeptide (SEQ ID NO:794).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP459 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP459 polypeptide (SEQ ID NO:795).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP460 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP460 polypeptide (SEQ ID NO:796).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP461 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP461 polypeptide (SEQ ID NO:797).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP462 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP462 polypeptide (SEQ ID NO:798).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP463 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP463 polypeptide (SEQ ID NO:799).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP464 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP464 polypeptide (SEQ ID NO:800).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP465 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP465 polypeptide (SEQ ID NO:801).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP466 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP466 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP467 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP467 polypeptide (SEQ ID NO:802).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP468 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP468 polypeptide (SEQ ID NO:803).

Ag Cont.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP469 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP469 polypeptide (SEQ ID NO:804).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP470 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP470 polypeptide (SEQ ID NO:805).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP471 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP471 polypeptide (SEQ ID NO:806).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP472 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP472 polypeptide (SEQ ID NO:807).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP473 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP473 polypeptide (SEQ ID NO:808).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP474 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP474 polypeptide (SEQ ID NO:809).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP475 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP475 polypeptide (SEQ ID NO:810).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP476 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP476 polypeptide (SEQ ID NO:811).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP477 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP477 polypeptide (SEQ ID NO:812).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP478 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP478 polypeptide (SEQ ID NO:813).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP479 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP479 polypeptide (SEQ ID NO:814).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP480 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP480 polypeptide.

Ag cont.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP481 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP481 polypeptide (SEQ ID NO:815).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP482 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP482 polypeptide (SEQ ID NO:816).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP483 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP483 polypeptide (SEQ ID NO:817).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP484 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP484 polypeptide (SEQ ID NO:818).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP485 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP485 polypeptide (SEQ ID NO:819).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP486 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP486 polypeptide (SEQ ID NO:820).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP487 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP487 polypeptide (SEQ ID NO:821).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP488 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP488 polypeptide (SEQ ID NO:822).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP489 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP489 polypeptide (SEQ ID NO:823).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP490 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP490 polypeptide (SEQ ID NO:824).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP491 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP491 polypeptide (SEQ ID NO:825).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP492 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP492 polypeptide (SEQ ID NO:826).

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In another aspect, the invention features a recombinant or substantially pure preparation of an HPP493 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP493 polypeptide (SEQ ID NO:827).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP494 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP494 polypeptide (SEQ ID NO:828).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP495 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP495 polypeptide (SEQ ID NO:829).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP496 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP496 polypeptide (SEQ ID NO:830).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP497 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP497 polypeptide (SEQ ID NO:831).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP498 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP498 polypeptide (SEQ ID NO:832).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP499 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP499 polypeptide (SEQ ID NO:833).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP500 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP500 polypeptide (SEQ ID NO:834).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP501 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP501 polypeptide (SEQ ID NO:835).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP502 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP502 polypeptide (SEQ ID NO:836).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP503 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP503 polypeptide (SEQ ID NO:837).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP504 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP504 polypeptide (SEQ ID NO:838).

A9 cont

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP505 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP505 polypeptide (SEQ ID NO:839).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP506 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP506 polypeptide (SEQ ID NO:840).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP507 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP507 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP508 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP508 polypeptide (SEQ ID NO:841).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP509 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP509 polypeptide (SEQ ID NO:842).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP510 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP510 polypeptide (SEQ ID NO:843).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP511 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP511 polypeptide (SEQ ID NO:844).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP512 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP512 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP513 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP513 polypeptide (SEQ ID NO:845).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP514 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP514 polypeptide (SEQ ID NO:846).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP515 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP515 polypeptide (SEQ ID NO:847).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP516 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP516 polypeptide (SEQ ID NO:848).

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In another aspect, the invention features a recombinant or substantially pure preparation of an HPP517 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP517 polypeptide (SEQ ID NO:849).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP518 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP518 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP519 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP519 polypeptide (SEQ ID NO:850).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP520 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP520 polypeptide (SEQ ID NO:851).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP521 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP521 polypeptide (SEQ ID NO:852).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP522 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP522 polypeptide (SEQ ID NO:853).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP523 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP523 polypeptide (SEQ ID NO:854).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP524 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP524 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP525 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP525 polypeptide (SEQ ID NO:855).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP526 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP526 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP527 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP527 polypeptide (SEQ ID NO:856).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP528 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP528 polypeptide (SEQ ID NO:857).

Ag cont

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP529 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP529 polypeptide (SEQ ID NO:858).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP530 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP530 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP531 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP531 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP532 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP532 polypeptide (SEQ ID NO:859).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP533 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP533 polypeptide (SEQ ID NO:860).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP534 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP534 polypeptide (SEQ ID NO:861).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP535 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP535 polypeptide (SEQ ID NO:862).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP536 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP536 polypeptide (SEQ ID NO:863).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP537 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP537 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP538 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP538 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP539 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP539 polypeptide (SEQ ID NO:864).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP540 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP540 polypeptide (SEQ ID NO:865).

Ag Cont.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP541 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP541 polypeptide (SEQ ID NO:866).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP542 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP542 polypeptide (SEQ ID NO:867).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP543 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP543 polypeptide (SEQ ID NO:868).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP544 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP544 polypeptide (SEQ ID NO:869).

*A9 cont.*  
In another aspect, the invention features a recombinant or substantially pure preparation of an HPP545 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP545 polypeptide (SEQ ID NO:870).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP546 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP546 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP547 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP547 polypeptide (SEQ ID NO:871).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP548 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP548 polypeptide (SEQ ID NO:872).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP549 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP549 polypeptide (SEQ ID NO:873).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP550 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP550 polypeptide (SEQ ID NO:874).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP551 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP551 polypeptide (SEQ ID NO:875).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP552 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP552 polypeptide (SEQ ID NO:876).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP553 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP553 polypeptide (SEQ ID NO:877).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP554 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP554 polypeptide (SEQ ID NO:878).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP555 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP555 polypeptide (SEQ ID NO:879).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP556 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP556 polypeptide (SEQ ID NO:880).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP557 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP557 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP558 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP558 polypeptide.--

At page 50, line 28, insert --(SEQ ID NOs:384-880)--after "Figures 1A-558A";  
line 29, insert --(SEQ ID NOs:384-880)--after "Figures 1A-558A";  
line 32, insert --(SEQ ID NOs:384-880)--after "Figures 1A-558A";  
line 34, replace "Figure 559" with --Figures 1B - 383B (SEQ ID NOs:1-383)--;  
line 35, replace "Figure 559" with --Figures 1B - 383B (SEQ ID NOs:1-383)-- after "shown in"; and  
line 37, insert --(SEQ ID NOs:384-880)--after "Figures 1A-558A".

At page 51, line 4, insert --(SEQ ID NOs:384-880)--after "Figures 1A-558A";  
line 6, insert --(SEQ ID NOs:384-880)--after "Figures 1A-558A";  
line 20, insert --(SEQ ID NOs:384-880)--after "Figures 1A-558A";  
line 26, insert --(SEQ ID NOs:384-880)--after "Figures 1A-558A";  
line 29, insert --(SEQ ID NOs:384-880)--after "Figures 1A-558A";  
line 30, replace "Figure 559" with --Figures 1B - 383B (SEQ ID NOs:1-383)-- after "shown in";

line 32, replace "Figure 559" with --Figures 1B - 383B (SEQ ID NOs:1-383)-- after "contained in";

line 34, --(SEQ ID NOs:384-880)--after "Figures 1A-558A"; and

line 39, --(SEQ ID NOs:384-880)--after "Figures 1A-558A".

At page 52, line 2, insert --(SEQ ID NOs:384-880)--after "Figures 1A-558A";

line 9, replace "Figure 559" with --Figures 1B - 383B (SEQ ID NOs:1-383)-- after "contained in";

line 10, replace "Figure 559" with --Figures 1B - 383B (SEQ ID NOs:1-383)-- after "contained in";

line 11, replace "Figure 559" with --Figures 1B - 383B (SEQ ID NOs:1-383)-- after "contained in";

line 13, insert --(SEQ ID NOs:384-880)--after "Figures 1A-558A";

line 15, replace "Figure 559" with --Figures 1B - 383B (SEQ ID NOs:1-383)-- after sequence shown in" and insert --(SEQ ID NOs:384-880)--after "Figures 1A-558A";

line 25, replace "Figure 559" with --Figures 1B - 383B (SEQ ID NOs:1-383)--; and

line 29, replace "Figure 559" with --Figures 1B - 383B (SEQ ID NOs:1-383)-- after "contained in".

At page 53, line 3, replace "PCR, A Practical Approach" with --PCR, *A Practical Approach*--;

line 6, replace "sequences" with --sequences--;

line 20, replace "Figure 559" with --Figures 1B - 383B (SEQ ID NOs:1-383)-- after "in accordance with"; and

line 31, replace "Figure 559" with --Figures 1B - 383B (SEQ ID NOs:1-383)-- after "in accordance with".

At page 54, line 1, replace "Figure 559" with --Figures 1B - 383B (SEQ ID NOs:1-383)-- after "contained in";

line 3, replace "Figure 559" with --Figures 1B - 383B (SEQ ID NOs:1-383)-- after "as shown in";

line 14, replace "Figure 559" with --Figures 1B - 383B (SEQ ID NOs:1-383)-- after "contained in"; and

line 22, insert --from-- after "genes".

At page 55, line 18, replace "elementand" with --element and-- after "promoter"; and  
lines 36 and 37, replace "Figure 559" with --Figures 1B - 383B (SEQ ID  
NOs:1-383)-- after "exemplified in".

At page 56, line 12, insert --the-- before "skilled"; and  
line 25, insert --a-- before "purified".

At page 57, line 11, replace "-\*B" with -- - 558A (SEQ ID NOs:384-880)--; and  
line 15, insert --(SEQ ID NOs:384-880)--after "Figures 1A-558A".

At page 58, line 26, replace "Figure 559" with --Figures 1B - 383B (SEQ ID NOs:1-383)-  
-after "shown in"; line 27, --(SEQ ID NOs:384-880)--after "Figures 1A-558A"; and line  
33, delete "or a nucleic acid encoding modified *H. pylori* protein or portion thereof," after  
"portion thereof,".

At page 62, line 7, replace "et al." with --et al.-- after "Caruthers";  
line 14, move up "Suitable pharmaceutically" to line 13 after  
"administered."; and  
line 35, insert --Determination of candidate protein antigens for antibody  
and vaccine development--.

At page 63, line 2, replace "815," with --815--after "*Biophysica Acta*"; and  
line 11, replace "560" with --559--after "Figure".

At page 64, line 1, replace "permissable" with --permissible--.

At page 65, line 10, replace "Mayers et al., 1985, *Science* 229:" with --Mayers et al.,  
(1985) *Science* 229--;  
line 29, replace "PNAS" with --*Proc. Natl. Acad. Sci. USA*-- after "(1992);  
line 30, replace "PNAS" with --*Proc. Natl. Acad. Sci. USA*-- and  
replace "Patents" with --Patent-- after "U.S.".



At page 66, line 7, replace "Cunningham and Wells (*Science* 244: 1081-1085, 1989)" with --Cunningham and Wells, (1989) *Science* 244: 1081-1085--;  
line 22, replace "(*DNA* 2: 183, 1983)" with --(1983) *DNA* 2: 183-- after "Adelman et al.,";  
lines 33 and 34, replace "(*Proc. Natl. Acad. Sci. USA*, 75: 5765[1978])" with --(1978) *Proc. Natl. Acad. Sci. USA* 75: 5765-- after "Crea et al."; and  
line 38, replace "(*Gene*, 34:315[1985])" with --(1985) *Gene* 34: 315-- after "Wells et al.".

At page 68, line 33, replace "267" with --267-- after "*Chem.*" and "*EMBO J* 12:" with --*EMBO J.* 12:-- after "Griffiths et al. (1993)";  
line 34, replace "352" with --352-- after "*Nature*", and "*PNAS* 89:" with --*Proc. Natl. Acad. Sci. USA* 89:--; and  
line 36, replace "*EMBO* 5," with --*EMBO J.* 5:-- after "(1986)".

At page 69, line 3, replace "91, pp. 387" with --91: 387-- after "*Vaccines*", and "88," with --88:-- after "*Gene*";  
line 7, replace "55," with --55:-- after "*Microbiol*";  
line 11, replace "6," with --6:-- after "*Bio/Tech.*";  
line 14, replace "174," with --174:-- after "*J. Bacteriol.*";  
line 15, replace "9," with --9:-- after "*EMBO J.*";  
line 20, replace "(Cull et al. (1992) *PNAS USA* 89:" with --(Cull et al., (1992) *Proc. Natl. Acad. Sci. USA* 89:--; and  
line 36, replace "*U.S.A.* 89," with --*USA* 89:--.

At page 70, line 5, replace "*U.S.A.* 87," with --*USA* 87:--;  
line 16, replace "37(9)" with --37(9)-- after "*Med. Chem.*"; and  
line 28, replace "37(9)" with --37(9)-- after "*J. Med. Chem.*".

At page 71, line 5, replace "204," with --204:-- after "*Anal. Biochem.*".